

GRAIN & FEED JOURNALS

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A Merger of Grain Dealers Journal, American Elevator & Grain Trade, Grain World and Price Current-Grain Reporter

In This Number

Saving Damp Corn from Discounts

Unfair Government Competition in the Grain Business

Encourage Production for Defense

Burocrats Need Strait Jacket

Salesman Misrepresenting Credit of Customer

Directors of Insolvent Grain Corporation Held Liable

Canada's Grain Trade and Exchange

Photometric Measuring of Protein in Wheat

Static Electricity

A Chinese Immigrant



Up-to-date Cribbed Elevator of Federal North Iowa Grain Co., Webb, Iowa
(For description see page 329)

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In Organized Markets Only Members of the Local Grain Exchange Will Be Listed

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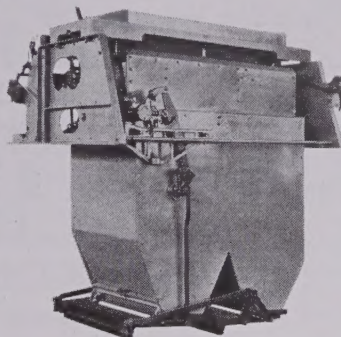
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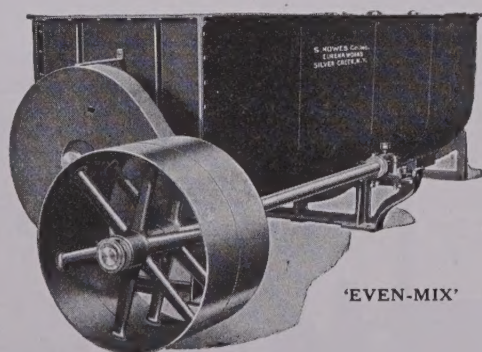
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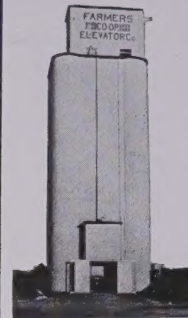
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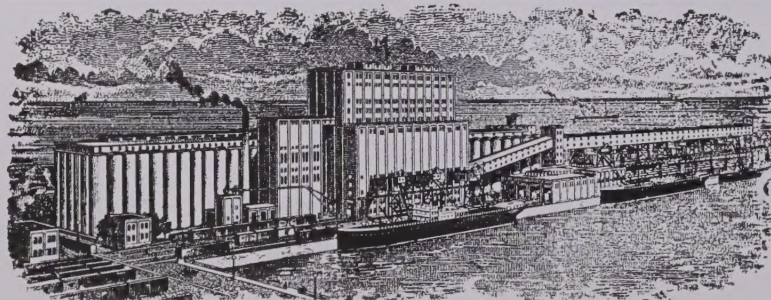
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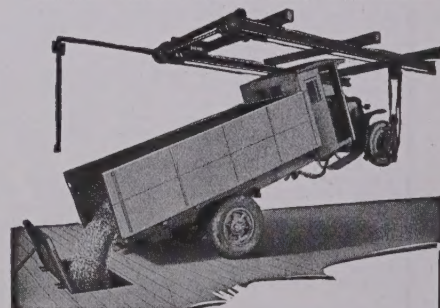
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Statement of the Ownership, Management, Circulation, Etc., Required by the Act of Congress of August 24, 1912,

of Grain & Feed Journals Consolidated, published semi-monthly at Chicago, Ill., for October 1, 1941.

State of Illinois, County of Cook, ss.—Before me, a notary public in and for the state and county aforesaid, personally appeared Charles S. Clark, who having been duly sworn according to law, deposes and says that he is the business manager of the Grain & Feed Journals Consolidated, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager are: Publisher, Grain & Feed Journals Consolidated, Inc., Chicago, Ill.

Editor, R. R. Rossing, Chicago, Ill.

Managing Editor, Charles S. Clark.

Business Manager, Charles S. Clark, Chicago, Ill.

2. That the owners are: (Give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent or more of the total amount of stock):

Charles S. Clark, 332 South La Salle St., Chicago. D. M. Clark, Chicago, Ill.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages or other securities are: (If there are none, so state.)—None.

4. That the two paragraphs next above giving the names of the owners, stockholders and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company, but also, in cases where the stockholders or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed through the mails or otherwise, to paid subscribers during the six months preceding the date shown above is... (This information is required from daily publications only.)

CHARLES S. CLARK,
Business Manager.

Sworn to and subscribed before me this 16th day of October, 1941.

(Seal)
(My commission expires July 23, 1943.)

Edgar J. Harris, Jr.,
Notary Public.

SCALE TICKETS FOR GRAIN BUYERS

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GRAIN & FEED JOURNALS CONSOLIDATED

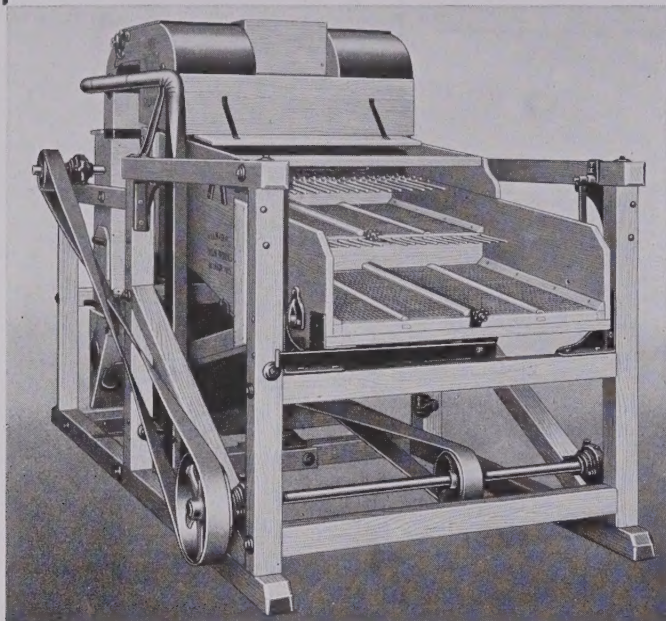
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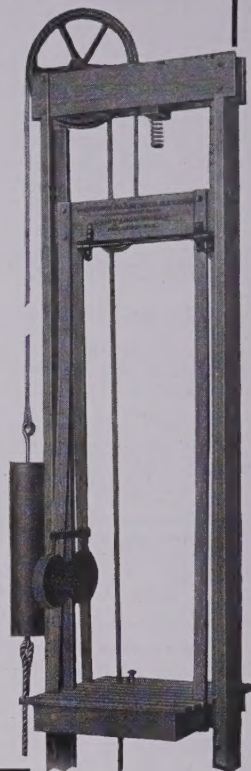
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Grain & Feed Journals

Consolidated

327 S. La Salle Street

Chicago, Ill.

GRAIN & FEED JOURNALS

CONSOLIDATED
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327 S. La Salle St., Chicago, Ill., U.S.A.
Charles S. Clark, Manager

A merger of
GRAIN DEALERS JOURNAL
Established 1898

AMERICAN ELEVATOR &
GRAIN TRADE
Established 1882

THE GRAIN WORLD
Established 1928

PRICE CURRENT - GRAIN REPORTER
Established 1844

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THE ADVERTISING value of the Grain & Feed Journals Consolidated as a medium for reaching progressive grain, feed and field seed dealers and elevator operators is unquestioned.

Advertisements of meritorious grain elevator and feed grinding machinery and of responsible firms who seek to serve grain, feed and field seed dealers are solicited. We will not knowingly permit our pages to be used by irresponsible firms for advertising a fake or a swindle.

LETTERS on subjects of interest to those engaged in the grain, feed and field seed trades, news items, reports on crops, grain movements, new grain firms, new grain elevators, contemplated improvements, grain receipts, shipments, and cars leaking grain in transit, are always welcome. Let us hear from you.

QUERIES for grain trade information not found in the Journal are invited. The service is free.

CHICAGO, ILL., OCTOBER 22, 1941

COUNTRY elevator men of the rainy regions are installing improved driers to help save the water soaked crops still in the fields.

ALTHO GRAIN elevator construction has an excellent priority as needed for defense it is advisable to arrange for the necessary materials before starting construction.

MUCH FARM STORED grain offered for sale at country stations is so badly infested with weevil many buyers are refusing to accept it at any price. After these pests have taken possession of a bin it is difficult to prevent their spreading to the rest of the house.

THE SCARCITY of corn huskers, combined with the corn grower's aversion to husking his own crop, is making business good for the machine pickers, so ear corn buyers with ordinary corn cleaners will experience much difficulty in salvaging all the shelled corn. Nobody wants the stalks or the husks.

A COUNTY SEALER at Murray, Iowa, inhaled some of the gas with which he was fumigating corn in steel bins and died within three hours. A gas mask or the application of the fumigant without entering the bin would have saved a life.

IF THE Government is determined to engage in the grain business, it should be glad to use the services of men long engaged in that line. Experience has always been considered one of the most valuable assets of any business, while political affiliation is a decided handicap.

PRIORITY limitation of steel for new grain elevators is forcing the use of concrete in the construction of hopper bottoms for 35 new tanks being added to a Buffalo elevator. The manager soliloquizes that the substitution of concrete will prevent condensation in the new storage annex.

CHIEFKAN wheat has such poor baking qualities that steps should be taken to prevent growers from cashing in on its superior productivity. If named in the rules for grading as not eligible for the higher grades, its milling deficiencies would be properly advertised at the same time that buyers of future contracts on the exchanges would be protected against having this undesirable wheat tendered to them.

IT SPEAKS volumes for the spirit of co-operation shown by big and little businessmen that out of the hundreds of thousands of concerns affected adversely by orders of the price administration, the production management and the S.P.A.B. not one has gone into court to resist orders that have no legal basis. That an industrial enterprise may be helpful or otherwise to the defense or offense is not sufficient to establish or deny priority. There must be an actual contract with the army or navy.

SEED CLEANING has become an important department in the diversified business done by many country elevators, particularly thru the middle western states. The need for custom seed cleaning service grows out of two factors. One is harvest of small patches of field and grass seeds by farmers possessed of combines, because the harvest is so quickly handled with this machine. This leads to dirty seed, sorely in need of cleaning. The other factor is growing realization on the part of the farmer that the first line of defense in weed control is sowing of clean seed. Every weed seed removed from the crop seed to be planted is one less weed to eradicate from the field after the sun and the rain has led it to set root. Cleaning machines can remove weed seeds from crop seed before planting, but it takes a cultivator, or a hoe, and a lot of energetic grubbing to remove weeds from a field, once they get a start.

AS A PRICE forecaster the Kansas State College has been doing better than most; but in its latest forecast said steady to higher prices during October seem probable, ignoring the paramount effect of war on the course of grain prices, as demonstrated by the bad break of Oct. 16, ascribed by market commentators to axis successes in battle.

GRANTING of unfair concessions or rebates to shippers, specifically forbidden by the Elkins Act, is extremely unpopular with the retailers just now because a Chicago judge recently fined the Alton \$5,000, the Burlington \$3,000, and the Mo. Pacific \$4,000 for extending long-time credits to favored produce commission men. Fines are so much more liberal than the concessions granted, grain shippers and receivers will be loath to accept even a few kind words from a freight agent.

COUNTRY GRAIN MERCHANTS of Indiana and Nebraska have recently suffered many losses as the direct result of accepting rubber checks from unknown truckers of unknown addresses that, it would seem all well posted dealers would refuse to accept checks from strangers under any condition. The most popular practice with these swindlers is to buy a large bill of feed and give a check in excess of its value so that the confiding dealer generally loses more cash than the sale amounts to.

THE RAILROAD brotherhoods that rejected the offer by the fact finding board to arbitrate their demand for increased wages are heading for disaster that will follow their plan to go on strike. Before permitting transportation to come to a standstill the government can be expected to take over operation. It is not likely that the government will raise the wage which is now higher than in 1929, and the government cannot be blackmailed as were the movie magnates, by threats of being put out of business.

ALTHO TRANSPORTATION is considered a vital part of national defense, the railroad car builders are receiving a trickle of steel under their A-3 priorities rating and are able to supply only a small part of the backlog of railroad orders on which they are working, according to *Railway Age*. Railways, like other folk, will have to "make the old car do a little longer." The situation is bad in that any slowing down of our transportation system means a slowing down of commerce, and a slowing down of the defense program itself. It takes railroad cars to get steel plate to the shipyards, the same as it does to move grain to market. Also, old cars, loaded with grain, mean more leaks in transit, and more claims. By cooping all cars carefully shippers will reduce losses in transit and save time often wasted on slow acting claim agents.

GRAIN SHIPPERS must keep in mind the fact that if the demands of the railroad unions for increased wages are granted freight rates must be greatly increased and the transportation service materially reduced. Even now many of the railroads are not enjoying a patronage that justifies their paying the present high wages. Higher freight rates will make wider margins necessary if shippers are to escape the sheriff.

Unfair Government Competition in the Grain Business

The Commodity Credit Corporation, a creature of the Government, has acquired a large stock of grain on the basis of the loan rates which are not the market prices, and the elevators are choked to 90 per cent of their capacity with loan grain or grain owned outright by the Corporation.

At the same time that the Corporation has become the largest grain dealer in the country the regular grain merchants have been forced out of business. These terminal elevator companies having their own storage and numerous smaller merchandisers having no storage facilities of their own but utilizing the public elevators have hitherto been engaged in buying and selling grain continuously, enjoying a considerable turnover in the course of the year.

These merchants can acquire their necessary stock of grain only by paying the prevailing market price, and of course must sell at a price covering cost and handling charges, and to stay in business must have a profit in addition. This normal action on their part is prevented by the Corporation which is not under the necessity of earning a profit and in fact for political reasons often sells at a loss.

When a government corporation whose future selling price can not even be guessed at is in the business no private grain merchant can take the risk of accumulating grain to be sold in competition with the government corporation, especially since the Corporation, by reason of its large holdings controls the selling price of all grain. The private merchant can get no higher price than that at which offers are made by the Corporation.

Unfortunately for the trade when the government policy of taking ownership of grain to benefit the farmer was first proposed the grain merchants neglected their opportunity to come forward with plans to implement that purpose and at the same time preserve the grain handling industry. Simpler methods than those adopted could have been presented to the lawmakers, and without the regimentation of the grain growers.

Even tho it is rather late in the day the Corporation could change its policy and utilize the private grain trade to a

considerable extent by disposing of its grain by sale of warehouse receipts at 1 cent per bushel less than when sold to be loaded out of store. Thus the grain merchants who have a right to remain in business could buy their needed stock from the Corporation in store; and, protected by the 1 cent additional charged by the Corporation for grain to be loaded out of store, could locate buyers, negotiate the terms of sale, send confirmation, order grain out of warehouse, surrender billing, make new billing and get B/L, invoice, make draft, make the innumerable bookkeeping entries and pay for telephone and telegraph service, all of which the Corporation now has to perform at some expense.

Out of the 1 cent per bushel the grain firms would have to pay $\frac{1}{2}$ cent for loading out, alone, the same as paid by the Corporation. The other $\frac{1}{2}$ cent would not be profit, but would be mostly absorbed in meeting expenses.

This method of disposing of its grain would enable the Government Corporation to cut down its operating expense and simplify its operation.

Bureaucrats Need Strait-Jacket

That administrative officials are prone to exceed their lawful authority has been shown in the Wage and Hour Division and in the O.P.A.C.S.

The Wage and Hour Division is persisting in its prosecution of employers who evade overtime pay by adjusting salaries or wages. Altho ruled against by the courts of Texas and Illinois the bureaucrats are so determined they are carrying an appeal to the Supreme Court at the expense of the tax payers. The law is so plainly worded that any one who can read English can easily satisfy himself conclusively that an employer has met the pay requirements when he has paid the minimum stated in the Fair Labor Standards Act. Either the lawyers of the Wage and Hour Division can not understand plain English or they do not want to.

Meantime many employers are paying in fear of a retroactive court decision that may uphold the Division's unsound contention.

In the case of the O.P.A.C.S., the Administrator, who now has a different alphabetical designation, assumes power under a presidential emergency proclamation, and when cornered as to his powers of enforcement admits he has none, stating he will rely on another government agency denying the offender the materials to which he is entitled. Just polite blackmail.

This question is coming to the fore in the contemplated law to fix prices. The administration has a bill leaving, as usual, the utmost discretion to the administrator of the proposed law, while some congressmen rightly feel that the law should contain definite guides and rules to be followed in setting prices.

Encourage Production for Defense

The flood of orders from Washington restricting the use of materials on account of scarcity is typical of bureaucracy that copies the "verboten" of Hitler. It seems that the directors of production are giving too much attention to restriction and not enough to production.

Zinc is needed for the coating of steel used in the siding and roofing of grain elevators. Very large quantities are needed in the manufacture of brass for shell casings. In this emergency it seems the price paid for zinc and copper should be raised to the point where our unemployed citizens will find it profitable to work in our undeveloped mines.

We have an abundance of wheat and corn because of the guaranteed price and of gold because of the high price paid for it. Why not have an abundance of all the materials considered "critical" by rewarding marginal producers?

Heavy production and increased employment are needed to provide incomes on which to levy taxes. It would seem wise for the O. P. M. to begin at the beginning with the raw material, since we must have the raw material before we have the finished product. It is elementary in production that first things should come first.

Saving Damp Corn from Discounts

The volume of small grain earning heavy discounts in central markets because of excessive moisture contained should prompt country elevator operators to install modern drying facilities in hope of being able to salvage more of the damaged crops, as well as the new corn crop, which is also grading low because of excessive moisture.

The careful operation of grain driers has brought pleasing profit to many elevator operators and should protect many other grain shippers from heavy losses on damp grain. The intelligent operation of any of the improved driers now on the market has invariably proved most profitable for enterprising grain merchants and we have not yet learned of any operator who suffered a loss from reducing the percentage of moisture in grain sufficiently to insure safe shipment and storage.

Every grain shipper fully appreciates that the only sure way to avoid heavy discounts on damp grain is to dry it most carefully and get it to market. Wet or damp grain can not be safely stored because it is sure to deteriorate and generally causes heating, attracts destructive insects, causes grain to get out of condition so quickly that many shipments are unsalable. Country shippers have realized a gratifying profit from the careful operation of a drier and no reason has yet been discovered why all enterprising

shippers cannot profit from the same operation.

Fire Smolders Twenty-four Hours

Watchfulness over fire hazards should be carried well past what would normally be expected to be the danger period, according to a report of Harry Lehr, Nebraska field man for the Grain Dealers Mutual Fire Insurance Co., covering a loss at the Farmers Grain Co., Bellwood, Neb. Lehr reports:

Thursday afternoon the drive belt, from the motor to the jack shaft, slipped on the fibre motor pulley and set fire to it. The pulley and belt were replaced Thursday afternoon. A watchman was left on duty Thursday night, and the elevator cupola was checked frequently Friday forenoon, with no traces of fire reappearing. Friday afternoon, when the elevator workmen were busy loading out grain at the south elevator, fire broke out in the north elevator, burned up the southwest corner of its cupola and into its rafters and sheathing before being extinguished.

The leg motor was located in the southeast corner, protected by a metal inclosure vented to the outside of the cupola. Evidently a spark lodged between the motor inclosure and the cupola wall during the outbreak Thursday afternoon, where it smoldered until a change in the wind Friday afternoon created the proper draft to fan it into a blaze.

The fire was put out with a fire hose carried up to the cupola. Lehr says the fire might have done less damage had a small hose, which could have been handled easily, been available. But with the fire out, the company took no more chances. A watchman was left on duty again Friday night. Vigilance and precaution can be depended upon to reduce fire losses and fire insurance premiums.

A heating motor set fire to the cupola of a Mansfield, Mass., elevator recently, but automatic sprinklers held the fire in check until the arrival of the firemen and another elevator was saved from the flames. Protection pays.

Only 65,000,000 bus. of commercial storage space for grain was available at terminal markets Oct. 4, reports the U.S.D.A., in spite of the fact that approximately 10,000,000 bus. of new storage space became available during August and September. The report showed 86% of the storage space in U. S. terminal markets filled as of that date, compared with 83% a month earlier.

USDA 1940 Corn Loans

According to the Department of Agriculture, 2,337 Commodity Credit Corporation loans on the 1940 corn crop were repaid during the week ending Oct. 4, 1941. This brought total loan repayments to that date to 29,176, representing 28,282,118 bus. valued at \$17,220,026. There remained outstanding 80,296 loans on 74,723,399 bus. valued at \$45,535,294. Loans by states follow:

State	Total Loans Made		Repayments	
	No. Loans	Bushels	No. Loans	Bushels
Illinois	12,653	13,578,228	7,987	8,719,655.06
Indiana	1,046	913,733	646	567,540.00
Iowa	59,217	59,207,603	15,575	14,951,611.26
Kansas	881	627,298	129	88,516.00
Kentucky	24	66,890	21	63,442.00
Michigan	9	5,649	4	2,102.00
Minnesota	10,482	8,020,299	1,243	981,870.46
Missouri	3,480	2,963,261	1,414	1,092,404.00
Nebraska	15,527	13,189,811	1,570	1,393,335.00
North Dakota	98	113,942	49	68,178.00
Ohio	460	260,445	251	130,072.00
South Dakota	5,567	4,039,430	271	215,438.00
Wisconsin	38	18,928	16	7,954.00
Totals	109,472	103,005,517	29,176	28,282,117.87

Modern Cribbed Elevator at Webb, Iowa

The new elevator built at Webb, Ia., for the Federal North Iowa Grain Co. is a complete new structure built on a new site that the owners recently acquired. The buildings consist of a 52,000 bus. grain elevator on a heavy slab type foundation, a large feed warehouse, and a three-room office building along with a receiving driveway.

The cribbed elevator is divided into 18 bins and has one leg with a capacity of 4,000 bus. per hour. It has a work floor 13 feet wide containing a modern cleaner and special sacking devices for retailing grain as well as facilities for receiving grain from the farmer to a pit in the driveway and servicing trucks in the driveway. The driveway is 16 feet wide and fitted with a 30-ton Soweigh Scale, which is 34 feet long. This scale in turn is fitted with a telescoping Strong-Scott dump and a set of grate bars are fitted into the large receiving pit, which was built under the driveway and which in turn serves the leg.

Attached to this driveway is a commodious office divided into three rooms. One to be used as a sales room, one room as a private office for the manager, the other room to be used as a testing room and contains the scale beam for the large scale in the driveway. This office is finished in natural fir finish, walls and ceiling and presents a pleasing appearance.

A roomy concrete basement under the office building, the driveway and work floor contains a heating plant which heats the rooms above.

The owners have another elevator located 100 feet away from the new house and a spout was provided directly from this elevator for service to the old elevator.

A warehouse has ample capacity for the storage of feed products which are retailed to the trade. All of these buildings are covered with galvanized iron.

Special pit arrangements were built at the back of the leg for the processing of grain from the cleaner.

The Federal North Iowa Grain Co. operates other elevators in this territory, having headquarters at Cedar Rapids, Ia. Mr. Leland Miller of Cedar Rapids is general manager. The

T. E. Ibberson Co. designed and built this complete plant.

For illustration see outside front cover page.

Salesman Misrepresenting Credit of Customer

The Appellate Court of Illinois granted Acme Feeds, Inc., a reversal in part of the decision of the circuit court of Sangamon County in the suit by Peter J. Geerlings against the feed company for an accounting of commissions and earnings on sales. The defendant company filed counterclaim for charge backs on account of false credit reports and for money owed.

The court said: "In salesman's action for accounting for commissions and earnings, evidence held to warrant allowance of employer's counterclaim for giving false credit information concerning customers, by making false statement that one customer had no unpaid chattel mortgages or liens unpaid, and making false statement concerning minor customer, and for moneys collected by salesman or advanced to salesman, but not to warrant allowance of counterclaim as to items where employer elected to rely upon contract with customer or failed to plead particular items."—33 *M. E. Rep.* (2d) 727.

Directors of Insolvent Grain Corporation Held Liable

The Appellate Court of Illinois has reversed the decision of the circuit court of Knox County, Illinois in the suit brought by Emma R. Richards and others against the North Henderson Grain Co. and its directors to recover for corn stored with the grain company.

The lower court gave judgment against the company, and in favor of the directors. The Appellate Court, however, held that the directors also were liable.

The several plaintiffs delivered corn to the elevator for storage only and subject to their demand.

For a number of years prior to this time the corporation was insolvent and without funds to carry on its business. The directors knew this and that it was the custom of the corporation fraudulently and unlawfully to sell corn and other grain which had been stored and with the proceeds of such unlawful sales to carry on its business.

None of the officers and directors knowing of this practice made any objection thereto. The officers and directors acquiesced in the continuance of this practice and the proceeds therefrom to be placed with the assets of the corporation.

It is alleged the corn delivered for storage was sold without the knowledge or permission of plaintiffs. Gross mismanagement as well as misfeasance and negligence was charged.

Plaintiffs demanded that the grain be returned to them or they be paid the market price at the time delivery was requested, which was refused. Judgment was rendered against the corporation for \$7,382 and no appeal was taken from that.

The Appellate Court said: "Under such circumstances the acts complained of not being merely isolated acts, but pursuant to a practice that is alleged to have been engaged in by appellees over a period of years, the presumption is that the officers and directors would have discovered the wrong doing if they had been reasonably diligent and if there was a lack of knowledge on their part it would present a case of gross negligence unless properly explained.

"It is not easy to imagine how the directors and officers could remain in charge of the business affairs thereof without being cognizant of the financial condition of the corporation and of its misconduct complained of."—32 *N.E. Rep.* (2d) 189.

Good Will
is the one and
only asset that
competition
can not under-
sell or destroy.
Marshall Field

Asked—Answered

[Readers desiring trade information should send query for free publication here. The experience of brother dealers is most helpful. Replies to queries are solicited.]

Protesting Illinois Sales Tax on Feeds?

Grain & Feed Journals: We are protesting the 2% tax on feeds that is paid to the Department of Finance. I notice on the protest forms sent us there is a place for a signature of Warren Wright, or by his assistant. I take it from that, that they are supposed to sign that and mail it back to us.

On last month's report we only sent one copy and they failed to return it to us. This month we will send in two copies and ask for them to sign one and return it. I am just wondering if we are doing it right.—Sam Honegger, Forrest, Ill.

Ans.: Two receipts are necessary. One goes to the attorney who has brought suit on behalf of the 111 elevators in Illinois under the auspices of the Illinois Grain Dealers Ass'n and the Illinois Farmers Grain Dealers Ass'n.

Every feed dealer in Illinois will benefit in the future if the suit is won, but only those who actually bring suit will be able to recover any tax that is paid under protest. Unless a dealer brings suit in the courts within 30 days after the protest is filed the Finance Director will turn the money over to the State Treasurer, and after that has been done there is no chance of the protestant ever getting it back.

The forms now used bear the stamped notation that he is a party to the injunction obtained Sept. 23.

By following strictly the instructions sent out by the grain dealers' associations and keeping in touch with the attorney it will be easier to win the suit. The instructions first sent out are still effective, and if they have been lost the dealer should apply to his state association for all information and advice.

The specified form is of no use at this late date to any firm not a party to the suit of the 111 elevators.

Instead of proceeding independently to attempt to recover back payments it is more economical to come in under the grain dealers' suit, each contribution having been only \$10, to be refunded in part after the costs of suit have been defrayed.

Civilian Industry Granted Priority

Many civilian industries having no defense orders and hitherto having no priority better than B-1 were on Oct. 16 granted by the O.P.M. a rating of A-10, a defense industry rating, tho far below A-1.

The privilege is not yet extended to retail establishments, but covers hundreds of thousands of activities engaged in warehousing, wholesaling, processing, manufacturing, fabricating and transportation, for maintenance, repair or operating supplies.

It is only necessary for the user of the desired material to declare himself within the requirements and that he has read and understands Preference Rating Order P-22, as amended Oct. 16.

Trade Agreement with Argentine Cuts Import Duties

A trade agreement between the United States and Argentina, which becomes effective Nov. 15, cuts the domestic import duty on Argentine flaxseed 50% from 65c per bu. to 32½c per bu. for the duration of the "emergency," and sets the duty at 50c per bu. permanently thereafter.

The domestic import duty on canned meat is cut from 6c to 3c per lb.; on casein, from 5½c to 2¾c per lb.; alfalfa seed, from 8c to 4c per lb., and Italian type cheeses, from 7c to 5c per lb.

Announcement of the agreement drew im-

mediate fire from farm group leaders, and from industries associated with domestic agriculture. Flaxseed dropped 8c per bu. on the Minneapolis market Oct. 16, when Washington advices indicated that Canadian flaxseed would also be admitted at the reduced duty rate.

USDA 1941 Wheat Loans

The Department of Agriculture has reported that thru Oct. 11, 1941, Commodity Credit Corporation made loans on 255,510,699 bus. of 1941 wheat in the amount of \$254,690,264. A total of 403,048 loans were made in 32 states at an average rate per bu. of \$1, which includes transportation charges from the area of production to warehouse locations. The wheat in storage under loan includes 54,923,882 bus. stored on farms and 200,586,817 bus. stored in public warehouses. The number of loans actually made probably exceeds those reported at this time as only those transactions which have completely cleared CCC records are announced. Loans by states follow:

Where loans orig- inated	No. of loans	Farm Storage (Bushels)	Warehouse Storage (Bushels)	Amount loaned
Ark.	1	.....	493	\$428.02
Calif.	140	139,463	412,689	523,446.04
Colo.	7,076	1,782,030	5,298,346	7,103,303.25
Dela.	450	.....	206,194	242,024.97
Idaho	3,399	828,275	4,243,726	4,321,980.88
Ill.	26,551	791,107	9,545,228	11,461,554.22
Ind.	16,527	620,419	5,546,417	6,985,586.86
Iowa	2,830	26,468	687,348	737,637.77
Kan.	96,515	16,297,673	52,255,253	71,420,289.91
Ky.	1,989	.....	778,589	867,853.93
Mo.	3,536	1,070	1,601,400	1,881,330.96
Mich.	2,600	312,311	270,315	585,405.12
Minn.	11,878	1,743,973	3,045,765	4,758,956.33
Mo.	20,268	179,511	5,203,898	5,517,912.22
Mont.	12,085	6,260,227	8,973,730	13,405,537.85
Neb.	46,673	8,562,902	13,963,014	22,262,467.37
N. Mex.	334	25,657	535,900	578,832.98
N. Y.	210	2,194	62,543	75,411.35
N. C.	33	.....	5,569	6,429.45
N. D.	31,019	3,158,442	19,157,035	21,692,441.90
Ohio	15,218	618,112	5,244,403	6,727,321.86
Okla.	33,160	2,011,245	15,038,557	16,488,157.88
Ore.	3,064	1,765,014	9,142,265	10,187,623.66
Pa.	1,446	1,082	386,237	447,909.29
S. D.	34,842	5,462,737	8,919,887	14,274,163.20
Tenn.	1,655	.....	522,874	583,656.78
Texas	21,589	1,136,374	14,605,883	15,323,406.27
Utah	514	786,881	305,846	887,246.54
Va.	1,044	1,967	317,971	374,333.66
Wash.	5,446	1,719,436	13,560,342	13,551,116.26
W. Va.	60	.....	31,361	35,048.83
Wyo.	896	689,312	717,739	1,381,394.45
Totals	403,048	54,923,882	200,586,817	\$254,690,264.06

Coming Conventions

Trade conventions are always worth while, as they afford live, progressive grain dealers a chance to meet other merchants from the same occupation. You can not afford to pass up these opportunities to cultivate friendly relations and profit by the experience and study of others.

Nov. 6, 7. Southern Mixed Feed Manufacturers Ass'n, Gainesville, Fla.

Dec. 9, 10, 11. Western Grain & Feed Ass'n, Hotel Fort Des Moines, Des Moines, Ia.

Dec. 9, 10, 11. Farmers Elevator Ass'n of S. D., Hotel Cataract, Sioux Falls, S. D.

Jan. 21, 22, 23. Farmers Grain Dealers Ass'n of Iowa, Fort Des Moines Hotel, Des Moines, Ia.

Feb. 17, 18, 19. The Farmers' Elvtr. Ass'n of Minnesota, Hotel Radisson, Minneapolis, Minn.

April 2, 3, 4. Society of Grain Elevator Superintendents, Omaha, Neb.

June 4, 5, 6. American Feed Manufacturers' Ass'n, French Lick Springs Hotel, French Lick, Ind.

Southwest Needs Increased Conditioning and Turning Charges

A strong plea for recognition of higher costs of keeping grain in condition has been made by G. E. Blewett, of Fort Worth, Tex., secretary of the Southwest Terminal Grain Elevator Ass'n, in a letter addressed to J. B. Hutson, pres. of the Commodity Credit Corporation. Mr. Blewett points out that:

"The warehousemen in the states of Kansas, Oklahoma, Texas, and New Mexico had no voice, election, or debate whatever in formulating the schedule of turning charges allowed the warehouses in this area, as the country elevators, as well as the sub-terminal elevators in this area are in no manner affiliated or associated with the National Grain Trade Council, whose membership is comprised solely of the terminal markets, such as Kansas City, Omaha, Minneapolis, Chicago, etc., so their arguments and desires in no manner represent or reflect the wishes of the warehousemen in these four southwestern states; therefore you can appreciate the fact that the Commodity Credit Corporation in initiating a schedule of six months turning charges in Texas and Oklahoma did so without an opportunity of obtaining from the warehousemen in Texas and Oklahoma just what was proper, equitable, and just.

"I do not in the least seek to disturb the schedule of charges allowed those warehousemen affiliated with the National Grain Trade Council, but I have in mind the remarks made by Mr. Webster at the Chicago meeting, in which he stated that the elevators in the Northwest, or spring wheat belt, were entirely satisfied with the schedule of charges allowed them under the Uniform Storage Agreement, but it is most obvious and indisputable that if the schedule of ¼c per bu. for the first four months allotted to the warehousemen in Montana, South Dakota, Minnesota, Colorado, and Wyoming is equitable, and if the conditioning and other charges of ¼c per bu. for the first five months allotted the warehousemen in Kansas, Nebraska, Iowa, Wisconsin, Illinois, and other states in Area No. 3, is just and proper, then it stands to reason that the conditioning, insurance, and all other charges of ¼c per bu. per month for the first six months allotted the elevators in Oklahoma, Arkansas, and Texas is not just and equitable, for it can be clearly shown by the records of the corporation that I represent that we do actually turn all of the wheat in our elevators at least every 30 days, and the experience gained thru over 30 years operation clearly emphasizes the hazard of letting wheat stay in our bins over 30 days without turning, and especially is this true in the North Texas area of Wichita Falls, Fort Worth, Dallas, Sherman, Greenville, and points south; or, in other words, where the elevators are located in the area in which the Commodity Credit Corporation realizes it is unwise to store wheat on the farms.

"This condition and contention is all the more emphasized and supported by the abnormally high temperatures prevailing in this area during the last winter, and in my visit to Washington last February and March I left with Mr. Farrington a schedule showing the actual turning of all the bins in our elevators, which record shows that we had turned all the wheat more often than 30 days, and at that time I also gave Mr. Farrington data showing climatic conditions in Fort Worth over a period of years, which data revealed the fact that up to March 1, 1941, Fort Worth had experienced only five days of sub-freezing weather, with a minimum temperature of 29° on those five days, whereas under normal conditions fully 20% of our days revealed a freezing or lower temperature between December 1st and March 1st.

"The necessity of further conditioning and other charges being allowed the elevators in this area is supported by the abnormally high

	Wheat													
	Option		Oct.	Oct.	Oct.	Oct.	Oct.	Oct.	Oct.	Oct.	Oct.	Oct.	Oct.	Oct.
	High	Low	8	9	10	11	14	15	16	17	18	20	21	21
Chicago	125½	96½	120¾	118½	118¾	117	117½	115½	105½	110¾	113¾	112½	116½	116½
Winnipeg	80½	72½	77¾	74½	75½	75	74¾	74	72¾	73¾	74	73¾	73¾	73¾
Minneapolis	120½	98½	114¾	113½	113¾	111½	112½	110¾	100¾	106	109½	107½	111½	111½
Kansas City	119	88½	114½	112½	112¾	110¾	111½	109¾	100¾	107	109½	107¾	110¾	110¾
Duluth, durum	113¾	93¼	108½	107¾	107¾	104¾	104¾	103½	94¾	100	103½	101¾	104½	104½
Milwaukee	125	96½	120¾	118½	118¾	117	117½	115½	105½	111	114	112½	116½	116½
Corn														
Chicago	86½	66¾	79	77¾	77¼	74½	75½	74¾	67½	74¾	75	73¾	74¾	74¾
Kansas City	78½	63¾	72½	71½	71½	68¾	69¾	69¼	63¾	68¾	69¼	68	69	69
Milwaukee	86¼	67	79	77¾	77¾	74½	75½	74¾	67½	74¾	75	73¾	74¾	74¾
Oats														
Chicago	55½	36¼	51½	49¾	50¾	48½	50¾	48¾	42½	46¾	47¾	46¼	47¼	47¼
Winnipeg	48¾	33	45¾	44¾	46	46¼	45¾	45¾	43¾	44¾	44½	44¼	44½	44½
Minneapolis	50½	33¼	47¾	46¼	46¾	46¾	46¾	44¾	39¼	42¾	43¾	42¾	43¾	43¾
Milwaukee	55	36¼	51½	49¾	50¾	48½	50¾	48¾	42½	46¾	47¾	46¼	47¼	47¼
Rye														
Chicago	80¾	56¾	73¼	70¼	70½	68¾	69¾	68½	58¾	61	63½	61½	64½	64½
Minneapolis	75¾	53½	69¾	67¾	68¾	64¼	65¾	64¾	54¾	59	60½	58½	61½	61½
Winnipeg	66	50¾	60¼	58¾	58½	57¾	58¾	57	51¾	54¼	55½	53¾	54¾	54¾
Duluth	74¾	54½	69¾	67¾	66¾	64¼	65¾	64¾	54¾	59¾	60¾	58½	61½	61½
Barley														
Minneapolis	64	49½	56¼	54½	54½	52¼	54¾	54	50½	53¾	53¾	53¾	55	55
Winnipeg	60¾	44	57¾	56¾	55¾	56	57¾	55¾	53¾	55	55¼	54	55¼	55¼
Soybeans														
Chicago	197½	121¼	168¾	165½	166¾	163¼	163¾	158½	150½	156¾	160¾	159	163¼	163¼
Canada Exchange			88½	88½	88½	88½	88½	88¾	88¾	88¾	88¾	88¾	88¾	88¾

Crop Reports

Reports on the acreage, condition and yield of grain and field seeds are always welcome.

Boonville, Ind.—The soybean crop is being harvested and many of the farmers are using combines. The crop was good and the yield is about the same as last year.—W. B. C.

Kennewick, Wash., Oct. 12.—Wheat farmers are much elated at the rapidity with which the newly seeded fields of wheat are growing.—F. K. H.

Toronto, Ont., Oct. 10.—The acreage seeded to fall wheat shows a considerable increase over a year ago, but the weather has been too dry in the greater part of southwestern Ontario for good germination and growth. The yield of dry beans in Ontario this year is estimated at 16.5 bus. per acre—with total production amounting to 1,394,300 bus. obtained from 84,500 acres. In 1940 the yield was 14.9 bus. per acre and total production 1,264,000 bus. from 84,800 acres.—S. H. H. Symons, statistician, Ontario Dept. of Agr.

Topeka, Kan.—More rain fell over Kansas in September than in any other September, except three, since the state record was begun 55 years ago, according to the monthly summary of the weather bureau. Rain fall for last month and for August preceding was greater than has fallen over the state at this time of the year since 1927. The total fall of moisture for the state as a whole for the nine month period ending this month was 28.44 inches, which exceeds the amount in the first nine months of any year except 1902, 1904, 1915 and 1927, since the statewide record was begun in 1887.

Des Moines, Ia., Oct. 16.—Fields in Southern Iowa still are too wet for husking corn and combining soybeans because of rains which reached record breaking proportions in some areas, Charles D. Reed, reported in his weekly weather and crop summary. Combining, however, was done in the northern counties. However moisture in the ears and especially in the cobs makes cribbing unsafe while warm weather continues. Much fall plowing was done in the northern counties while some winter wheat was "muddled in" in the southern counties. Winter wheat seeded a week or 10 days ago is making a fine start, Mr. Reed reports.

Winchester, Ind., Oct. 18.—Not half of the beans have been threshed and we presume that half the land where the beans have not been harvested will be put to wheat, as corn was down badly kept a lot of people from sowing wheat in corn. Bean crop is the most uneven we have ever seen, as to the size of the beans, some of them are nice and plump, some in the same field are very small they do not run uniform. Abundant rains in the last few weeks have made pastures look like May. Hogs, milch cows and everything else are still running on good pasture and looks as tho it would take a heavy freeze to stop it.—Goodrich Bros. Co., P. E. Goodrich, pres.

Springfield, Ill., Oct. 8.—Moisture conditions are now generally adequate with too much in many areas, and in localities washing and flooding has occurred. The wetness in places was unfavorable to corn and soybeans and shocked or cut crops while on the other hand alfalfa, clover, and pastures were benefited. Considerable winter wheat has been sown in the north, but generally little has been seeded in the southern part of the State. The earliest planted corn is generally coming up to a good stand. While considerable plowing has been done, and plowing for winter wheat is largely all accomplished, that work is rather behind over several southern areas.—E. W. Holcomb, Meteorologist.

Decatur, Ill., Oct. 18.—Picking of corn is progressing slowly. Growers are in the fields whenever ground conditions permit. The quality is generally good, altho clear, snappy weather would put corn in much better shape for cribbing. Yields are good. The price of corn is too much below the government loan to warrant selling, therefore, the bulk of the crop will go into cribs to be sealed. Harvesting of soybeans gets underway whenever it is possible to pull combines thru the fields. Beans

dry out much faster than the ground. What beans were harvested this week came in in fair condition considering the heavy rainfall of this month. The moisture is running somewhat higher than in the first beans, but otherwise the quality is good. Frost and bright, favorable weather would do wonders in getting the crop harvested.—Baldwin Elevator Co.

Protein Averages at Kansas City

The average protein content of 1,478 cars of wheat tested by the Kansas City office of the Kansas grain inspection department during September was 12.45%. The Missouri department's tests of 1,072 cars showed an average of 13.27%. The average of the total of 2,550 cars tested by both departments was 12.8%, compared with 13.63% on 631 cars in September, 1940.

Combined reports on the tests made on 23,047 cars by both departments at the Kansas City market during the current crop year to the end of September showed an average of 13.32% protein, compared with 12.91% in 27,236 cars during the same period a year ago.

Infestation by alfalfa snout beetles is still confined to about 3,000 acres of alfalfa and clover in Oswego and Jefferson counties, N. Y., reports a Cornell University bulletin, which describes this insect and its control.

Government Report on Minor Crops

Washington, D. C.—The Crop Reporting Board of the U. S. D. A. on Oct. 10 reported the following estimates of yields and production as of Oct. 1.

BUCKWHEAT					
	Yield per acre	Indicated	Average	Indicated	
	1940	1941	1930-39	1940	1941
	Bushels				
	1940	1941	1930-39	1940	1941
Me.	15.0	14.0	192	120	126
N. Y.	16.5	18.0	2,515	2,194	2,106
Pa.	17.5	19.0	2,461	2,118	2,185
Ohio	18.0	18.0	330	288	198
Ind.	13.5	13.0	205	94	52
Mich.	15.5	13.5	230	310	216
Wis.	13.5	13.0	165	162	195
Minn.	11.0	12.0	193	242	240
Md.	19.0	19.0	109	95	76
Va.	13.0	13.5	174	195	176
W. Va.	17.5	18.0	319	245	234
N. C.	14.0	16.0	56	56	64
U. S.	16.2	17.1	7,315	6,350	6,109
GRAIN SORGHUMS					
Mo.	18.0	17.0	2,530	4,320	3,264
S. Dak.	8.0	9.5	...	3,544	4,208
Nebr.	10.5	14.5	1,733	7,728	5,756
Kans.	12.5	19.0	11,968	27,638	28,994
Ark.	12.5	12.0	679	850	672
Okl.	11.0	13.0	12,015	17,160	17,238
Tex.	13.0	20.0	44,854	46,397	70,660
Colo.	10.0	11.5	2,064	5,000	5,232
N. Mex.	9.0	23.0	3,396	3,150	8,855
Ariz.	27.5	30.0	990	880	1,560
Calif.	32.0	31.0	3,318	4,704	5,704
U. S.	12.3	17.8	84,253	121,371	152,143
FLAXSEED					
Ill.	15.0	14.5	...	90	261
Wis.	13.0	12.0	62	247	180
Minn.	10.5	10.5	5,902	16,695	14,858
Iowa	14.0	12.5	235	2,520	2,925
N. Dak.	6.0	7.0	2,895	3,888	5,215
S. Dak.	6.5	9.5	774	1,904	2,308
Kans.	9.0	8.0	341	1,314	1,088
Okl.	7.0	7.0	...	119	140
Tex.	6.0	6.5	...	174	104
Mont.	7.5	7.0	416	990	1,050
Ariz.	18.5	21.0	...	240	315
Calif.	21.0	16.0	745	2,814	3,168
U. S.	9.7	9.9	11,269	31,217	31,825
SOYBEANS (for beans)					
	Average	Indicated			
	1930-39	1940	1941		
	Thousand bushels				
State	1930-39	1940	1941		
Ohio	2,694	8,400	12,480		
Indiana	5,317	10,989	15,436		
Illinois	19,082	35,140	54,112		
Iowa	3,812	15,026	17,974		
Missouri	770	1,176	1,824		
North Carolina	1,437	2,282	2,280		
6 Commercial States	33,112	73,013	104,106		
Other States	2,394	6,824	7,512		
United States	35,506	79,837	111,618		

Over 52% of Flaxseed Moved to Market

Minneapolis, Minn., Oct. 11.—We are on an annual consumption basis of at least 48,000,000 bus. of flaxseed. Turning to the supply situation, we find that 52.52% of our 1941 domestic crop had moved into consuming channels up to Sept. 30. To be exact 16,750,000 net bushels had been marketed up to that date, of which 4,300,000 were marketed in September. The amount of domestic flax now arriving from the country is diminishing rapidly. At present prices, which are only a few cents over the government loan price at Minneapolis, an increasing amount of domestic seed will be held back by farmers anticipating higher prices. This leaves us dependent for the most part on Argentina for our supplies. The latest figures from Argentina show a remaining exportable surplus (after deducting this week's shipments of 653,000 bus.) of 33,600,000. The new Argentine crop will come to market at the end of December. While Argentine supplies are adequate, the bottleneck is the shipping question. The U. S. Maritime Commission has so far refused to allocate more than 20,000,000 bus. of space for flaxseed for the fiscal year beginning June 1. Of this amount over 9,000,000 have been shipped since June 1. If tonnage continues scarce we will have a real shortage of crushing flax in this country by spring.—Archer-Daniels-Midland Co.

As a grain insect specialist Geo. B. Wagner will join the staff of the Millers National Federation Oct. 15. For 10 years he has been employed in the U. S. Bureau of Entomology in the mill insect laboratory at Manhattan, Kan. His first work will be with weevil infestation of flour.

Government Crop Report

The Crop Reporting Board of the U. S. Department of Agriculture on Oct. 10 made the following report for the United States from data furnished by crop correspondents, field statisticians, and cooperating State agencies, as of Oct. 1.

		Yield per Acre		Total Production	
		Indicated	Oct. 1	Indicated	Oct. 1
		1940	1941	1940	1941
Crop		1940	1941	1940	1941
Corn, all, bu....	28.3	30.5	2,449,200	2,625,502	
Wheat, all, bu....	15.3	16.9	816,698	961,194	
Winter, bu....	16.3	17.0	589,151	684,966	
All spring, bu....	13.1	16.8	227,547	276,228	
Durum	11.1	16.9	34,776	44,490	
Other spring, bu....	13.5	16.8	192,771	231,738	
Oats, bu....	35.5	30.6	1,235,628	1,138,843	
Barley, bu....	23.1	25.2	309,235	351,522	
Rye, bu....	12.7	13.5	40,601	46,462	
Buckwheat, bu....	16.2	17.1	6,350	6,109	
Flaxseed, bu....	9.7	9.9	31,217	31,825	
Rice, bu....	50.2	48.8	52,754	57,934	
Grain sorghums, bu....	12.3	17.8	121,371	152,143	
Hay, all tame, ton	1.40	1.37	86,312	85,733	
Hay, wild, ton....	.81	.96	8,844	10,965	
Hay, clover and timothy, ton....	1.31	1.17	29,287	25,678	
Hay, alfalfa, ton	2.18	2.18	30,578	33,178	
Beans, dry edible 100-lb. bag....	*876	*896	16,074	18,226	
Peas, dry field, bu....	14.0	22.2	3,812	7,817	
Soybeans for beans, bu....	16.1	18.9	79,837	111,618	
Cowpeas for peas, bu....	6.3	6.7	...	...
Peanuts, lb....	864	776	1,734,340	1,480,280	
Broomcorn, ton....	*297	*364	41	40	

*Pounds.

		Acreage (in thousands)		Harvested		For 1941	
		Average	1930-39	1940	1941	1941	% of
Crop		1930-39	1940	1941	1941	1941	1940
Corn, all	98,049	86,449	85,943	99.4			
Wheat, all	55,884	53,503	56,783	106.1			
Winter	39,141	36,147	40,316	111.5			
All spring	16,742	17,356	16,467	94.9			
Durum	2,786	3,121	2,640	84.6			
Other spring....	13,956	14,235	13,827	97.1			
Oats	36,487	34,847	37,236	106.9			
Barley	10,707	13,394	13,977	104.4			
Rye	3,320	3,192	3,436	107.6			
Buckwheat	460	393	357	90.8			
Flaxseed	1,788	3,234	3,228	99.8			
Rice	942	1,051	1,186	112.8			
Grain sorghums ..	7,564	9,856	8,549	86.7			
Hay, all tame....	56,102	61,592	62,488	101.5			
Hay, wild	11,791	10,896	11,445	105.0			
Hay, clover and timothy	22,363	22,387	21,898	97.8			
Hay, alfalfa	12,867	14,048	15,218	108.3			
Beans, dry edible..	1,716	1,836	2,033	110.7			
Peas, dry field....	261	272	352	129.4			
Soybeans for beans	2,052	4,961	5,918	119.3			
Soybeans	5,467	10,528	9,900	94.9			
Cowpeas	2,647	3,120	3,331	106.8			
Peanuts	1,486	2,007	1,908	95.1			
Broomcorn	324	279	222	79.6			

Grain Movement

Reports on the movement of grain from farm to country elevator and movement from interior points are always welcome.

Kansas City, Mo., Oct. 14.—The initial arrival of new crop sorghum grains was received here today, consigned to the Mid-Continent Grain Co., from Elkhart, Kan. The car graded No. 2 yellow, 55 lbs. test weight, 14.2 per cent moisture and 4 per cent broken grains.

Goldendale, Wash., Oct. 12.—Government wheat loans issued to Klickitat County farmers has reached the half million mark. Thus far 446,000 bus. of 1941 wheat stored in commercial warehouses have been listed in government wheat loans. Only a small number of farm storage loans have been issued.—F. K. H.

Philadelphia, Pa.—Receipts and shipments of grain for the month of September, expressed in bushels, as compared to the same month in 1940, shown in parentheses, were as follows: Receipts: Wheat, 197,948 (711,995); corn, 1,521,226 (17,823); oats, 14,760 (20,076); rye, 95 (8,587); barley, 1,248 (1,722); shipments: wheat, 29,108 (727,822); corn, 1,243,383 (21,347); oats, 21,383 (14,568); rye, 2,000 (3,668); barley, 486 (1,399).—John W. Frazier, managing director, Comm'l Exchange.

Duluth, Minn.—The cash grain market has become draggy and weak, especially for the damaged and lower grades. There is so much rain soaked grain coming forward the market cannot absorb it. Basis for sample grade durum wheat was lowered 25c to 50c per bushel under the Duluth December price. The oversupply of damp, tough grain has aggravated the situation to the extent that even the better grades have suffered because lower grades are selling at such extreme discounts.—F. G. C.

New York, N. Y.—Receipts and shipments of grain for September as compared with September, 1940, shown in parentheses, expressed in bushels were as follows: Receipts, wheat 2,667,160 (2,550,229); corn, 1,948,961 (366,893); oats, 676,462 (121,450); rye, 126,265 (3,400); barley, 21,250 (3,400); flaxseed, 163,000 (73,714); millfeed (tons) (10); shipments, wheat 567,000 (616,000); corn, 1,220,000 (39,000); oats, 463,000 (5,000); rye, (8,000); barley, 18,000; clover, 1,666 (4,340). Dept. of Information & Statistics, Produce Exchange.

Fort William, Ont.—Grain receipts and shipments during September, as compared to September, 1940, shown in parentheses, expressed in bushels, were: Receipts, wheat, 23,039,186 (18,071,811); oats, 1,938,933 (456,617); rye, 1,022,087 (538,901); barley, 3,878,570 (1,601,874); flaxseed, 144,131 (164,698); mixed grain, 16,389 (11,182); shipments, wheat, 17,931,423 (15,142,592); oats, 1,955,409 (1,583,586); rye, 1,059,925 (148,011); barley, 2,734,796 (1,104,320); flaxseed, 170,272 (120,053); mixed grain, 7,893 (3,816).—E. A. Ursell, statistician, Board of Grain Commissioners for Canada.

Winchester, Ind., Oct. 18.—Have been surprised in the last week at the amount of corn showing up. Farmers are assured of a crop now and willing to let loose of their old corn, and new corn is beginning to move but the volume will not be large. Likewise there are oats and wheat being handled, country elevator business is not so bad. We are still handling some clover seed, mammoth, medium and sweet Demand is not at all urgent, looks as tho we might have our prices in the country a little high for anybody to make money.—Goodrich Bros. Co., P. E. Goodrich, pres.

Ottawa, Ont., Oct. 10.—Canadian wheat in store for the week ending Oct. 10, increased 2,067,021 bus. as compared with the preceding week and increased 57,310,715 bus. when compared with the corresponding week in 1940. The amount in store was reported as 478,909,333 bus. compared with 476,842,312 bus. for the preceding week and 421,598,618 bus. for the week of Oct. 11, 1940. Wheat receipts in the Prairie Provinces for the week ending Oct. 10, amounted to 6,760,346 bus., an increase of 660,002 bus. over the revised figures of the previous week when 6,100,344 bus. were marketed. During the corresponding week a year ago the receipts were 12,888,452 bus. Marketing in the three Prairie Provinces for the ten weeks from Aug. 1, to

Oct. 10, as compared with the same period in 1940 were as follows, figures within brackets being those for 1940: Manitoba 10,515,909 (26,713,493); Saskatchewan 36,628,442 (99,435,377); Alberta 12,725,953 (41,260,815) bus. For the ten weeks ending Oct. 10, and the same period in 1940 59,870,304 and 167,409,685 bus. were received from the farms. R. H. Coats, Dominion Statistician.

Grain Storage at Terminals 86% Filled

Commercial storage space for only 65 million bushels of grain was available at terminal markets Oct. 4, reports to the Department of Agriculture indicate. Though about 10 million bushels of new storage became available during August and September, a larger percentage was occupied Oct. 4 than earlier in the season. The largest increase in stocks during September was reported in the Northwestern and Lower Lake markets.

For the country as a whole 86 percent of the commercial grain storage space at terminal markets was occupied Oct. 4 compared with 83 percent a month earlier.

In the northwestern markets, which includes Minneapolis and Duluth, approximately 77 percent of the 133,413,000 bus. of commercial storage space was occupied Oct. 4. In the Lower Lake markets, with a storage capacity of something over 85 million bushels, slightly over 90 percent of the space was filled.

Stocks of Grain on Farms

The Crop Reporting Board of the U.S.D.A., on Oct. 10, reported on the Oct. 1 farm stocks of wheat, corn and oats as follows, in brief:

Farm stocks of wheat estimated at 492,324,000 bus. substantially larger than the 369,447,000 bus. held on the like date last year, or 10-year average holdings of 337,511,000 bus. Largest Oct. 1 farm stocks in any year of record. The 490,594,000 bus. stocks Oct. 1, 1931, were a close second. These estimates include wheat stored on farms under Government loan. They do not include the stocks in any other positions than on farms. Disappearance of wheat from farms between July 1 and Oct. 1 amounted to 557,967,000 bus. This compares with the movement from farms of 530,397,000 bus. in the corresponding period in 1940.

Old corn stocks on farms were 465,618,000 bus., considerably shorter than the Oct. 1, 1940, carryover of 548,625,000 bus. and the record high Oct. 1, 1939, stocks of 555,596,000 bus. were still 230 million bus. above or approximately double the 10-year Oct. 1 average stocks of 235,134,000 bus. Farm stocks as of Oct. 1 represent 21.4 per cent of the 1940 production for grain.

Disappearance of farm corn stocks during the July 1-Oct. 1, 1941, quarter was 276,116,000 bus. In the corresponding quarter a year ago a disappearance of 304,598,000 bus. took place. These estimates include corn stored on farms under Government loans. They do not include the stocks in any other positions than on farms.

Stocks of oats on farms Oct. 1, 1941, are estimated at 922 million bus., or 81.0 per cent of the 1941 crop. This supply is about 10 per cent smaller than a year ago when the farm stocks of 1,026,452,000 bus. were the largest of record. The stocks held on farms October 1 during the 10-year period 1930 to 1939 were 810 million bus., or 81.0 per cent of the average annual production of oats in that period. Taking into consideration the July 1 carryover and the current year's production, the disappearance of oats from farms since July this season was 435 million bushels, about 23 per cent larger than in the July-October period of 1940.

Urbana, Ill.—The University of Illinois College of Agriculture celebrated "Soybean Day" Sept. 25, to mark the first 10-year period in the history of this newcomer in the farm crops field. Thirty pioneers in soybean growing were honored at a banquet in the evening.

The U. S. D. A. reports agricultural prices during the month ended Sept. 15 averaged 43% above a year earlier, and were the highest on record since February, 1930. The farm commodity price index rose 8 points during the month to reach 139% of the 1909-14 average. Prices for oil seeds led the advance.

Spring Wheats Grading Lower Than Average

Considerable reduction in the quality of spring wheats is shown by inspection reports from representative markets for the last half of September. The reduction is attributed to continued rains in most of the spring wheat area, the Department of Agriculture reports.

Receipts of Hard Red Spring wheat inspected during the last half of September graded lower than arrivals earlier in the month with 28 percent graded No. 1 heavy and No. 1, compared with 44 percent for the first half of September, and 35 percent the 1934-40 seasonal average. A slightly lower percentage of the last half of September inspections classes as Dark Northern Spring. Four percent graded "tough" compared with 2 percent earlier in the month.

Durum wheat inspections showed a continued increase in moisture. The proportion grading "tough" increased from 18 percent earlier in the month to 24 percent for the last half of September and compared with 2 percent the 1934-40 seasonal average. Only 41 percent graded No. 1 and 2 the last half of September compared with 82 percent the first half of the month and 72 percent for the 1934-40 seasonal average. The proportion grading Hard Amber decreased from 92 percent earlier in the month to 85 percent for the last of September.

Buyers Paying 2c Premium for Quality Wheat

Ninety-one mills and elevators in 37 counties in Kansas have agreed to pay 2c premium for "Certified" and "Grade A" wheat of the varieties Turkey, Kanred and Tenmarq, according to announcement made by Dr. John H. Parker, Director, Kansas Wheat Improvement Ass'n. A similar premium plan was used last year by 60 mills and elevators in Kansas.

This premium plan for wheat of the varieties wanted by millers and bakers is relatively new in Kansas, but has been followed for ten years in Indiana, where the crop from inspected fields of approved varieties is known as "premiumized" wheat. To receive this 3c premium, the grower must present a certificate issued by the Southwestern Indiana Wheat Improvement Committee.

Similarly in Kansas, the farmer wanting to get the 2c premium for "Certified" and "Grade A" wheat must present a certificate signed by A. L. Clapp, Secretary, Kansas Crop Improvement Ass'n, or by John H. Parker, Director, Kansas Wheat Improvement Ass'n, respectively.

The 2c premium for "Certified" and "Grade A" Turkey, Kanred and Tenmarq wheat is paid only from Oct. 1 to Dec. 31, after winter wheat planting is completed. It is intended that most of the "Certified" and "Grade A" wheat of approved varieties shall be sold and used as seed at premiums of 5c to 35c above local market price. The modest premium of 2c per bushel serves as a "shock absorber" to those farmers who produced "Certified" or "Grade A" wheat of approved varieties suitable for seed, but who for one reason or another failed to sell all of their wheat at seed prices.

This fall the Kansas Wheat Improvement Ass'n, cooperating with county agents, sponsored the planting of wheat testing plots in Marion, Comanche, Russell and Norton counties. Wheat representing fields that receive "Grade A" in these county plots will be eligible for the 2c premium plan in 1942, if this plan is continued. In addition to the 4 county wheat testing plots, "Blue Ribbon" seed wheat fields have been planted in 15 other counties. These fields are planted with "Certified" seed of approved varieties. Wheat from these fields that measures up to the "Blue Ribbon" standard, when judged next June, will be advertised as seed wheat and will be eligible for the 2c premium, if not sold as seed wheat by Oct. 1, 1942.

Photometric Measuring of Protein In Wheat

By DR. LAWRENCE ZELENY, associate grain technologist, U.S.D.A.

[Appearing before the annual convention of the Chief Grain Inspectors National Ass'n, in Toledo, Dr. Zeleny gave a practical, physical demonstration of this new method for measuring protein in wheat, along with an explanation of the process. The process is still in the development stage, but promises for the future, a quick, fairly simple method for making protein determinations in grains and cereal products which may make it possible for virtually every inspection point to be equipped for this purpose. There follows Dr. Zeleny's description of the principles and methods employed.—Ed.]

Preliminary attempts to adapt clinical methods to the determination of protein in wheat and flour showed some promise but in these investigations a much more promising method, based on the peculiar physico-chemical properties of wheat gluten was devised. This method is entirely different in principle from the Kjeldahl procedure now used for wheat protein determinations, but it resembles clinical methods only insofar as the final measurement is made with a photometer using the photoelectric cell.

The method is based on the principle that the proteins of wheat are readily dissolved by shaking the fine wheat meal with a very dilute solution of alkali. By neutralizing the alkali in a portion of such a protein solution with a suitable "buffer solution," minute particles of the gluten proteins hardly visible with a microscope are formed and remain suspended in the solution giving it a turbid or cloudy appearance. The degree of turbidity developed is an index of the gluten protein content of the wheat used in the test and may be determined quickly and accurately with the photoelectric photometer. In addition to the relative simplicity of the photometric method it has other important advantages over the conventional protein test for wheat.

The Kjeldahl test has two fundamental weaknesses when applied to the determination of wheat protein. In the first place it is in reality a test for nitrogen rather than for protein content, the protein calculation being based on the assumption that all the nitrogen present in the wheat is in the form of protein. Thus for a sample of wheat in which the protein has become partially destroyed by the action of insects or by improper storage, the Kjeldahl test would measure all protein decomposition products as protein. Such a sample would test the same as a sound sample with the same nitrogen content, although its true protein content might be substantially less. The photometric test, on the other hand, does not react to most protein decomposition products.

In the second place, the Kjeldahl test does not differentiate in any way between the different types of protein present in the wheat kernel. A considerable part of the wheat protein consists of the non-glutenous proteins of the

bran and germ which are of little or no importance from the standpoint of ultimate flour quality. The percentage of these non-glutenous proteins is quite variable and depends in considerable measure on the degree of plumpness of the kernels. Thus the abnormally high protein values often found in shriveled wheats are in many instances largely the result of a high content of non-gluten protein. The photometric protein test determines essentially only the gluten proteins of the inner part of the wheat kernel (endosperm) from which flour is made and should, therefore, provide a better index of ultimate flour quality than does the total protein value obtained by the conventional method.

The photometric procedure is carried out in the following manner:

1. The wheat is ground to a fine meal similar to that used for the standard Kjeldahl procedure.

2. A carefully weighed 0.5-gram portion of this meal is shaken for 2 or 3 minutes with a 100 ml. portion of a very dilute solution of alkali (0.05 N. KOH), to extract the protein.

3. The mixture is centrifuged for 10 minutes at about 1,800 r.p.m. to separate the starch and bran particles from the protein solution.

4. To a 5-ml. portion of the protein solution is added 25 ml. of a special phosphate buffer solution to produce the colloidal suspension of gluten protein.

5. After the suspension has stood for an hour, its light transmission is determined with the photoelectric photometer, and the gluten protein content of the wheat is determined from a previously prepared calibration chart, or the instrument may be calibrated so that it can be read directly in terms of gluten protein content.

It should be distinctly understood that this photometric method is still in the process of development. Certain difficulties, chiefly mechanical difficulties with the equipment and its standardization, prevent us from recommending the adoption of the method in commercial work at this time. We are confident, however, that the research we are now conducting and the collaborative assistance that has been promised us will eliminate these difficulties and that the method will develop into a valuable tool for use in commercial evaluation of wheat.

Gypsies Escape Rules Imposed Upon Regulated Truckers

When the month of October opened, approximately 300,000 unionized truck drivers in 15 middle western states were threatening to strike to enforce their demand for a wage increase. In rejecting this demand, the 800 employers involved stressed a condition which vividly illustrates the difference between the operations of established business and the activities of unregulated gypsy peddlers.

Most of the employers faced with the strike threat were motor common carriers, transporting merchandise over the public highways and across state lines for hire. As such, they are subject to year-around regulation by the Interstate Commerce Commission.

In contrast to the burdens imposed upon the regulated transportation industry, consider the blissful condition of the unregulated gypsy peddler, who uses the public highways for an office, warehouse and showroom as well as for transportation purposes.

No one tells the gypsy where or when he shall operate. No one tells him how much he shall charge for his merchandise. No one comes to him with wage and other demands in behalf of his helper, if he has one. No one pickets him.

The conclusion is obvious. The fly-by-night trucker should be controlled out of fairness to the legitimate motor carriers as well as in justice to established merchants.—*Highway Notes.*

The Grain Storage Insect Problem in North Dakota

By J. A. MUNRO, Entomologist, and HORACE S. TELFORD, Assistant Entomologist, North Dakota Experiment Station.

This investigation is based upon samples of grain received voluntarily from farmers and owners of grain elevators and also as a result of a form letter sent to more than 1100 elevator operators in all parts of the state requesting infested grain samples.

While any one or more of a number of species injurious to stored grain may be found in an infested bin, the most common insect encountered of late is the flat grain beetle. This beetle is reddish brown in color, flattened in appearance, about 1/16 of an inch in length, and most abundant in grain of a high moisture content. The saw-toothed grain beetle, about the same color but slightly larger than the former species, is characterized by six tooth-like projections on each side of its thorax (suggesting its name), and is an occasional pest. A species commonly encountered is the granary weevil. This weevil is about one-sixth of an inch in length, dark brown in color and characterized by a snout-like prolongation of the head. The granary weevil attacks sound kernels, eating the interior and reducing the grain to mere hulls.

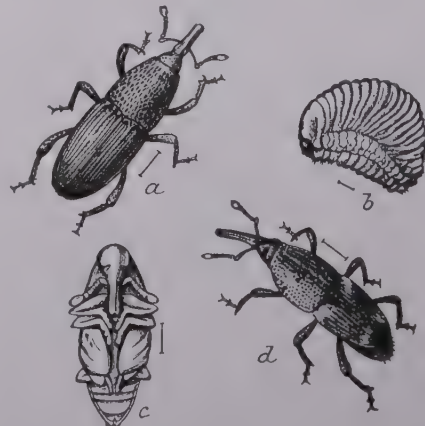
Occasionally the meal snout moth and its larvae are found in infested bins where the grain is fairly damp. The larvae spin a silken webbing which fastens the particles together in a web-like manner. Meal worms, the larvae of tenebrionid beetles, also thrive in accumulations of grain, especially so if the grain is in contact with damp wooden flooring. The worms seldom cause appreciable damage except in grain which is allowed to remain undisturbed over long periods of time. These worms frequently burrow into the wooden walls or floors of bins causing severe injury to the structure.

Most insects while feeding upon the grain release moisture and warmth from their bodies, which tends to increase the moisture content of the grain and aggravate heating problems. Excess moisture in the grain favors the development of these stored grain pests.

Frequently the insects may be brought in from outside places in old grain sacks or infested grain, and once established in new bins, they become difficult to eradicate. Sources of infestation are often maintained from year to year in refuse grain or waste material in which the insects breed. Such material should be gathered up and treated or destroyed because if neglected it serves as a continual source of re-infestation. Before placing new grain in old bins, the bins should be carefully inspected and if such inspection reveals the presence of weevils or other insects in-



Dr. Lawrence Zeleny, Beltsville, Md., Demonstrating New Protein Test.



Granary Weevil; a, Adult; b, Larva; c, Pupa; d, Rice Weevil.

jurious to stored grains, steps should be taken to destroy the pests.

FUMIGATION TEMPERATURES.—For successful fumigation it is important that the temperature of the infested grain be at least 60° F. or above and that the bins be constructed so that loss of the gas thru openings and crevices is avoided. Most satisfactory temperatures for fumigation occur in summer, and, except under unusual circumstances, fumigating should be done then. Bins that are properly constructed and do not permit the wastage or leakage of gas require the minimum of fumigant or material. Since all fumigants are deadly gases when inhaled in sufficient quantity, extreme care should be observed in their use.

Where operators of grain elevators and owners of farm storage bins wish to use carbon disulfide, they are warned to be particularly careful in the handling of this fumigant. Carbon disulfide (sometimes referred to as carbon bisulfide) is inflammable and explosive and many insurance companies refuse to pay claims resulting from fires and explosions caused by its use. While carbon disulfide is an effective fumigant, it should be understood that the operator uses it entirely at his own risk. It is as readily ignited as high test gasoline by open flame, sparks, and burning tobacco. Therefore lighted matches and tobacco sparks and open flame of any kind should be kept away from any place where this gas is being used. Under satisfactory bin and temperature conditions carbon disulfide is applied at the rate of about 1½ gallons per 1,000 bushels of grain. Where temperature and bin conditions are not satisfactory, this dosage may have to be doubled. This fumigant material is usually applied by sprinkling it over the surface of the grain. The fumes being heavy penetrate deeply into the grain.

Marketing Canadian Wheat

Between June, 1940 and July, 1941, the largest buyer—the British government—and the largest seller—the Canadian Wheat Board—were absent from the Winnipeg wheat futures market.

Dealings consisted principally of the following: on the buying side were the Canadian mills and the exporters to countries other than the United Kingdom; on the selling side were country elevators hedging their purchases of farmers' grain. On both sides, of course, there were spreaders and speculators.

The explanation of market action during this period is apparently that farmers were selling on the open market just enough wheat to satisfy the demands of Canadian mills, of exporters to neutral countries and of the limited numbers of speculators and others.

When these buyers were active, the price tended to rise, thus attracting a larger volume of wheat through the open market. When demand subsided or offers increased beyond the capacity of the market, there was a tendency for prices to sink back to minimum levels.

BOARD POLICY CHANGES.—At the beginning of the present crop year, Wheat Board selling policy apparently underwent a change.

For the first time since June, 1940, offerings on the Winnipeg futures market could be traced to that source. The volume of these offerings varied from time to time but they have continued over the past several weeks. This meant, of course, that the market had now to absorb not only the volume of current hedging sales, which we have seen were not particularly heavy, but in addition a portion of Wheat Board holdings which comprise the bulk of Canadian visible supplies.

When trading first began in the 1941 crop, prices were at their best levels since the fall of France. For some weeks during July the October future traded between 77 and 79 cents per bushel. But these levels were not

maintained for long. By the beginning of September, the October future had declined to 72½¢ and after a minor rally, fell again to this level on Sept. 25.—Jas. Richardson & Sons.

Sheet Metal Casing Improves Heating Facilities

A galvanized sheet steel casing around the coal stove in the three-room office of the Papineau Grain Co., Papineau, Ill., enabled the stove to accomplish the double job of efficiently heating the entire office, and reducing the fuel bill to \$15 for an entire winter.

The sheet metal casing was Owner-Manager O. P. McCarty's idea. First he set the stove in a passageway between the front and rear divisions of the 18x20 ft. main office, and near the door to his 12x12 ft. private office.

Then he surrounded it with a square, open-end, box-like sheath of sheet metal, giving 8 inches of clearance from the stove at the nearest point to the sheet metal casing, except at the front of the stove.

The sheath begins 6 inches above the floor, all around the stove, and extends to the top of the stove at the front, and a foot above the top of the stove at the back. At the front of the stove the sheet metal is virtually in contact with the stove itself, but is cut low enough at the top so the coal hole of the stove can be opened for filling. A cutout in the metal sheath

at the front makes the stove draft and ash door accessible.

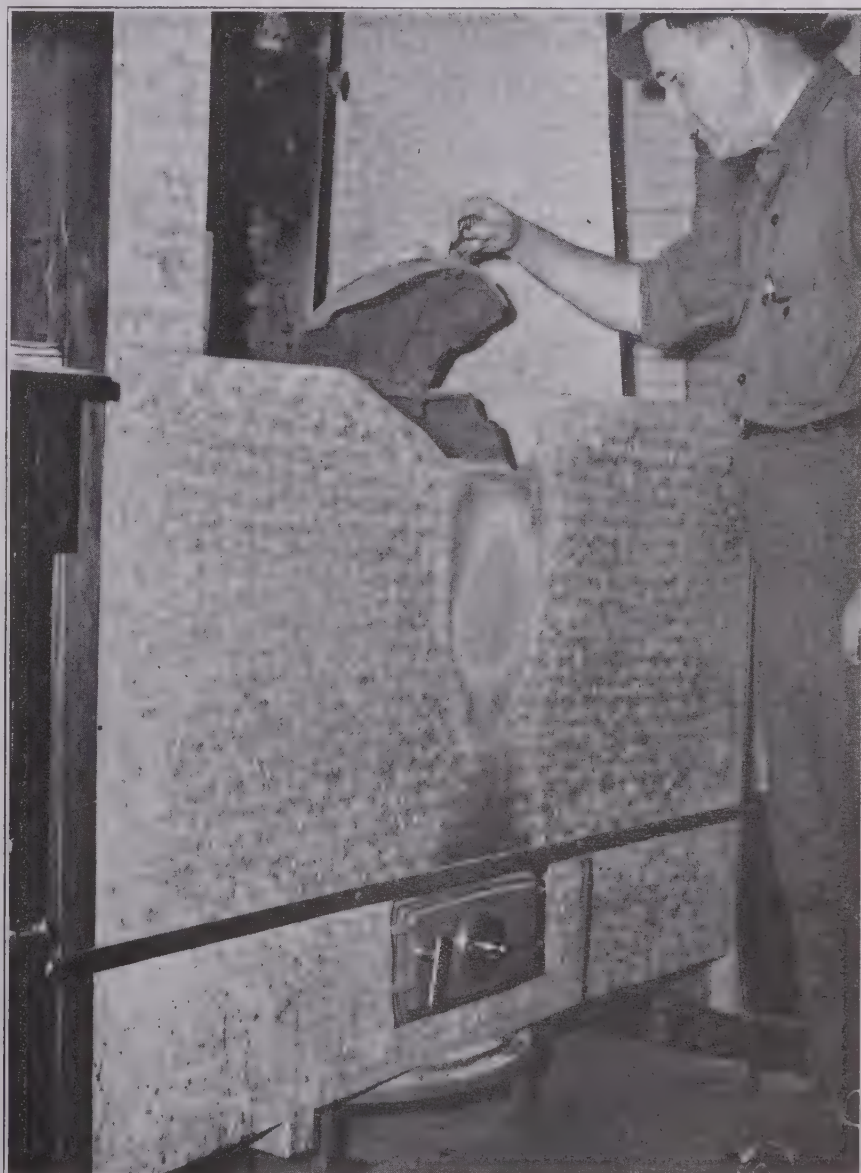
Next, because the position of the stove in the narrow passageway placed it close to wood walls, McCarty eliminated this inherent fire hazard by building sheet metal ducts up these walls, leaving 5 inches of clearance between the sheet metal and the wood for free circulation of air, and leaving these vents open at the top and at the bottom. The sheet metal of the stove casing was extended to connect with these air ducts in order to close off the passageway and confine its use to the stove.

"The casing," says Mr. McCarty, "makes the stove act like a furnace as far as circulation of air is concerned. Cool air is drawn in at the bottom and expelled at the top in the same manner as in a hot air furnace."

"The stove, in this casing, efficiently heated this entire office thru the last winter, and it provided heat as and when we wanted it. By leaving the door to my private office open, this, too, was kept warm."

"The stove used 5 tons of slack coal at \$3 a ton thru last winter. This compares with \$90 spent for fuel for an oil heater thru the preceding winter, when at least a part of the office was always cold."

"Properly filled with slack coal, and properly regulated, our warm morning coal stove, in its sheet metal case, has burned as long as 18 days without refiring. This, of course, was during spring months, when comparatively little heat was required to keep the office comfortable."



Sheet Metal Case Makes Office Stove of O. P. McCarty at Papineau, Ill., Heat Like a Furnace.

Canada's Grain Trade and Exchange

[From an Address by R. B. Pow of Port Arthur, Ont., before the Grain & Feed Dealers National Ass'n]



R. B. Pow

My great source of gratification lies in the fact that your Association has accorded the Society of Grain Elevator Superintendents, which Society I have the honor to represent, a place in the deliberations of your body. Our Society has been functioning for some years by meeting in annual convention and, throughout the time intervening between conventions, maintaining an office in Chicago to serve as a medium for the interchange of ideas in respect to the physical handling of grain and its unprocessed by-products. This office is under the efficient direction of our Secretary, Dean M. Clark, who has brought to the work a rare insight and appreciation of things essential to the proper functioning of the Society in the circle it was created to serve.

The handling of the actual grain is a very important part of the grain business and we recognize that any contribution of ideas that will tend to improve methods of handling is a direct contribution to the national economy. Our Society serves as a clearing house for information regarding machines, methods of treatment for off-grade grains, and any other information that will help the Superintendent in his work. The members are always ready and willing to offer suggestions in reference to particular problems. No attempt is made, nor indeed is there any desire on the part of the membership, to dig for information about those things which, for want of a more suitable term, one might refer to as trade secrets. Such things are not of general interest to us. On the other hand we are vitally interested in lowering power costs, reducing cleaning charges and eliminating waste and wasteful effort wherever these objectives can be attained. Having in mind this appraisal of the reasons for the existence of our organization, it would seem that the logical thing for the elevator owner or operator, who takes the long range view of the factors surrounding his operations, should be to encourage his superintendent to place himself in a position to benefit from what we have to offer, by acquiring and maintaining membership in our Society. Certainly no detriment can follow and much in the way of material benefit may be the result.

THE TRAFFIC IN GRAIN from the producer to the ultimate consumer is one of the most complex in our present day economy and is the most important because from the grain comes our daily bread which means life itself to the vast majority of the people of the world. Step by step and mainly through the medium of trial and error we have progressed far from the first known methods of processing and distribution and the end cannot be foretold. Scattered throughout the length and breadth of this hemisphere are hundreds of grain handling plants, manned by men of practical knowledge and actual experience, thinking and planning on how to meet their problems that rise from day to day. In some "best solution" may lie the germ of an idea from which, when worked upon by other minds, may be evolved some improvement in machine, or method, that may be of inestimable benefit to all. To you who are members of our Society and to you who have men in your organizations who are eligible for membership in our Society, my message is there is room for all in our circle and this is worthwhile work for each one to do.

These are trying and exacting times through which we are passing and if we are to win each must do his or her part in the momentous

struggle which has been forced upon us. One can have but little patience with those well-meaning but sadly misguided idealists who indulge themselves in speculations and advice as to what must be done in a post-war world. We have got to win this war first, for, if we do not, we will have nothing to say about what is to happen afterward. Canada has been at war since Sept. 10, 1939. From a relatively weak military power, as we were then, we have had to utilize every resource at our command in order to build up a war machine. Today our actual and potential strength is assuming considerable proportions and practically everything we possess is being used in the prosecution of the war effort of the Dominion. The Grain Trade of Canada has been placed under the control of the Canadian Wheat Board. Under the Canadian Wheat Board Act it is the duty of the Board, "in selling and disposing of wheat as by this Act provided to utilize and employ without discrimination such marketing agencies, including commission merchants, brokers, exporters and the persons engaged in or operating facilities for the selling and handling of wheat as the Board in its discretion may determine."

THE BOARD MUST use existing marketing agencies, but if such agencies are not operating satisfactorily the Board may use its own or other agencies to carry on its marketing activities. In general the Board has used all the facilities of the organized trade in its operations. The Board has signed agreements with country and terminal elevators, mills and other grain handling organizations. The Board may take over control of the marketing of Oats, Barley, Flax and Rye, but, so far, has not taken the initiative in applying the terms of the Act to secondary crops. No restriction was placed on deliveries to the Board of the 1940 crop and the huge crop was accepted by the Board as rapidly as storage facilities could be arranged to accommodate deliveries. However, in an effort to reduce production, deliveries to the Board on account of the 1941 crop were restricted to 230 million bushels. One of the regulations covering disposal of the 1941 crop provides that: "all sales and deliveries of grain by the producer, including wheat taken to a mill and gisted for his own use, shall be entered in the permit book and shall not exceed his quota at his delivery point."

I crave your indulgence while I place before you the following summary, issued by the Director of Public Information at Ottawa. "A supply of foreign exchange, particularly American dollars, is vital to Canada's war program. To ensure this supply and to perform other necessary functions, the Foreign Exchange Control Board was given the necessary powers at the beginning of the war.

"Canada normally sells the Sterling resulting from her Empire trade in order to get American dollars to cover her trade deficit with the United States. But the war has made this arrangement largely impractical. For Britain has needed most of her gold and American dollars for her own war purchases in the United States and so has not been able to continue to convert Canadian Sterling credits into U. S. Dollars. Moreover, Britain was able to settle only 31.4 per cent of her deficit with Canada up to March 31, 1941, by transfer of gold, and since December of last year no gold has been transferred from Britain to Canada.

"At the same time, as was to be expected, Canada's trade deficit with the United States has greatly increased. In 1939, it was \$117,000,000; in 1940 it jumped to \$301,000,000; and in the present fiscal year, under normal conditions it would reach an estimated \$478,000,000.

"Because of these increased purchases Canada, since the beginning of the war, has been faced with a widening differential between the amount of U. S. dollars she needs and the supply she is able to command. For under the terms of the U. S. Neutrality Act, Canada's war purchases in the United States must be paid for in cash in U. S. Dollars."

Foreseeing this situation, the Foreign Exchange Control Board did the only thing possible under the circumstances. It took steps to conserve the American dollars in Canadian possession and to increase that supply where possible. All foreign exchange holdings were ordered turned over to the Board which gave Canadian dollars in return. Through a system of licensing all Canadian exports to non-Empire countries were made to produce United States dollars.

Because of this situation, also, the Canadian Government hopes that many Americans will visit Canada this year, not only in order that they may spend American dollars here which will be re-expended in the United States to purchase war supplies for Canada, but also in order that the traditionally neighborly relations between the United States and Canada may continue.

Our total war spending in the present fiscal year will be more than two billion dollars and will require nearly forty per cent of our national income. We know that not yet have we reached the limit in taxation and in war effort that will be required of us, but the prospect of the load to be carried, though appalling, must, nevertheless, be borne. Placed on an arm of the balance, such burdens have small weight, when on the other arm we place Freedom to live out our lives in our own way and Liberty to work out our national destiny.

Storage Space Needed for Soybeans

Altho generally satisfactory conditions were reported by commodity committees reporting before the Oct. 2 meeting of the Mid-West Shippers' Advisory Board in Chicago, Lawrence Farlow, sec'y of the Illinois Farmers Grain Dealers Ass'n, and chairman of the Board's soybean committee, said a shortage of grain storage space might cut his expectation of a 25% increase in the movement of soybeans for the quarter. About 35,000,000 bus. of soybeans were scheduled for early shipment, he said.

C. T. Burwell, traffic manager for A. E. Staley Mfg. Co., Decatur, Ill., said that unless the Commodity Credit Corp. is successful in moving some of the corn it now has in store in Decatur elevators, the soybean movement cannot develop as predicted. There is not sufficient storage space available for the beans at Decatur, he said, unless the corn can be shipped out. Decatur industries process about 75% of the soybeans produced in Illinois and Iowa, and depend upon their elevators to hold the new beans as they arrive.

Scarcity of paper car-liners for grain shipments and shipments of other bulk commodities requiring their use, was reported by several committees.

A Chinese Immigrant

Address delivered by LYMAN PECK, director of Nutrition, Central Soya Co., before the National Hay Ass'n.

The oil content, the yield of beans, and the color are of prime consideration to the processor. For example, a processor dares not purchase brown or black varieties of beans because this would cause dark specks in the meal, and many buyers would imagine it was adulterated. The quality of the oil is also inferior. Many of the varieties best suited for processing are also quite satisfactory for hay, and therefore used for both, depending upon the season and the needs of the grower.

PROCESSING began about 1900 on the Pacific Coast using beans imported from Manchuria. In 1915 at Elizabeth, North Carolina, the first processing of domestic grown soybeans began. In 1917 George O'Brien of Greenville, Ohio, made the first soybean flour. This was made from imported soybean cake brought from Manchuria. In 1920 an expeller plant was started in Chicago Heights, Illinois, and the industry really got under way. In 1928 production had climbed to 21,000 tons of soybean oil meal. This has grown by leaps and bounds to approximately 1,250,000 tons last season.

No farm crop has shown such a rapid development during the past century. None has had so much influence upon American agriculture. There must be fundamental reasons for this rapid growth. They are:

(1) Farmers found that soybeans are a good cash crop. They fit in well with their plan of crop rotation. As a green crop to be plowed under, they make an excellent fertilizer for building up wornout soils.

(2) In case of a failure or partial failure of other forage crops, soybeans may be relied upon to furnish excellent quality legume hay, if cut at the proper time.

TWO PRIMARY PRODUCTS result when soybeans are processed—soybean oil meal and soybean oil. Back to the farms goes about 95% of the soybean oil meal. Extensive tests at state experiment stations and in thousands of farm feed lots for many years have proved the value of this relatively new protein concentrate.

Tests have shown that farm grains such as corn, barley and oats, are deficient in protein, and that to produce milk, meat and eggs economically, protein supplements are needed.

Further tests revealed the fact that mixed proteins of both animal and vegetable origin gave much better results, particularly when fed to hogs and poultry. This led to the widespread use of soybean oil meal in commercial feeds and concentrates. Feed manufacturers are constantly striving to obtain ideal blends of those substances which the chemist calls "amino acids," and which the farmer has come to recognize as quality protein.

From an economic standpoint, soybean oil meal possesses many advantages. The soybeans are grown in the corn belt and processed in the corn belt where most of the hogs, cattle and sheep are fattened. This is not true of cottonseed meal and linseed meal.

Milling in transit rates further assist in making soybean oil meal an economical source of protein for the Eastern feed manufacturers serving a territory producing large quantities of milk, eggs and poultry.

Like many other new crops, ill-advised extravagant statements of enthusiasts hurt rather than helped progress. Because soybeans contain about 35% protein, farmers were led to believe they could be fed whole or ground to balance the diet for farm animals.

Extensive investigations soon revealed that because of their high oil content (about 18%) soybeans produced "soft pork" when fed to hogs. Bad results followed their inclusion in poultry rations. Cattle and sheep seemed to

be able to utilize them better, but here again economics entered into the picture.

Year ago soybean oil was worth about 33¢ a pound. Today it has advanced to nearly three times that. Because of the price of soybean oil, a ton of soybeans will bring a farmer more than he has to pay for a ton of soybean oil meal. The oil is therefore too valuable to feed to livestock.

DISCOUNT FOR SPLITS.—Those of you who handle soybeans know that the processors cut the price if there are too many split beans. Hundreds of growers have asked me why this is done, because they know the beans are ground before processing.

Nature places a coating over the bean to protect the contents from the air. As soon as this thin coating is broken the oil in the bean is exposed to the air and oxidation begins. The warmer the weather the more rapidly this oxidation takes place. As a result of this oxidation the quality of the oil is lowered and it has to be sold at a discount.

This oxidation process is also important to the feeder, although many do not realize it. Oxidation or the development of rancidity in fats rapidly destroys both vitamin A and vitamin E, in addition to decreasing palatability. This is just another reason against the feeding of soybeans to livestock, and further emphasizes the advantage of soybean oil meal over soybeans.

COOKING.—Another interesting fact is that processing, which thoroughly cooks the soybeans and removes the excess oil, actually increases their food value for livestock and poultry. The amount of heat applied during processing and the length of time it is applied greatly influences the food value of the soybean oil meal.

Research work at Wisconsin and Cornell involving the effect of heat during processing has had a most significant effect because it has enabled the processors to produce soybean oil meal of the highest nutritive value. The larger processors with adequate laboratory facilities and an efficient personnel were quick to apply this information. As a result, the feeding value and uniformity of their meals is much superior to what it was a few years ago. Accurate control during processing is necessary in order to do this.

There are two methods of processing that are widely used today. The expeller process

in which heat and pressure are employed to separate the oil from the beans, yields a meal of about 41%-42% protein and containing 4-4½% fat.

The newer method is known as the extraction or solvent process. In trade parlance, meal made by this process is referred to as "new process" or "solvent" meal. The beans are first cracked; then rolled into very thin flakes. The flakes are washed and rewashed with a solvent, hexane, which washes out the oil. The solvent with the oil in it is distilled; the oil separates and the hexane is used over and over again. The meal is thoroughly cooked by a long, slow process at gradually increasing temperatures. The heat drives off the hexane which is volatile, leaving the flakes entirely free of the solvent. After all this is done, the flakes are put through a toasting process which coagulates the protein, removes any dust, and increases the palatability. Then the flakes are ground to a uniform meal. New process meal contains from 44%-46.5% protein and about 1% fat.

Extensive research at Agricultural Colleges and Experiment Stations has shown that this toasted, new process soybean oil meal is equally or more valuable for the feeder than that made by the expeller process.

Regardless of the class of livestock, soybean oil meal must be regarded as a protein concentrate, and therefore when properly processed, the higher the protein content, the higher its value as a feed ingredient.

Soybean oil meal and soybean oil are used for a great many purposes. About 95% of the meal is used for feeding livestock and poultry. Soya flour is finding a steadily increased use in the human diet.

Soybean oil meal, because of its high nitrogen content, is proving to be an excellent source of organic nitrogen for fertilizing shade tobacco and is being used in many fertilizer mixtures for lawns and golf courses.

Among the more common industrial uses we might list glue for the plywood industry, paper coatings, water paints and plastics. The steering wheel rims, the horn buttons and various other gadgets on automobiles are examples of soybean plastics.

Approximately 82% of the soybean oil is used for human food, everything from cooking fats to salad dressings. More and more is being used for making paints, varnishes and lacquers.

Many, taking a long-range view of developments, have shifted their business and are handling grain and feedstuffs in addition to hay. Those of you who are in the elevator business and located in a territory where soybeans are produced will find the handling of this crop a good adjunct to your business. Soybean oil meal is a staple ingredient in livestock rations; one of the most economical of protein concentrates; and for these reasons merits your consideration.

Full Production Needs Freedom of Action

Many who are willing and anxious to answer the call for expanded production of food are fearful of expanding operations. They are not afraid of the natural workings of the laws of supply and demand, but they are fearful of quotas, price fixing and other bureaucratic regulations. In this way the government is defeating its own purpose.

Instead of increased bureaucratic control the industry now needs a relaxation of orders from planning boards. Greater freedom of action is needed if the full productive force of this industry is to be achieved in this emergency. While in Europe they are tightening the reins of autocratic control, this country should set an example of democratic efficiency by removing hampering bureaucratic control if the nation is to go "all-out" for adequate defense.—Corn Belt Farm Dailies.



Lyman Peck, Fort Wayne, Ind.

Static Electricity

By GROVER C. MEYER, Kansas City Power & Light Co., before Society of Grain Elevator Superintendents

The intent and purpose of this paper is not to bring out new facts or methods of control relative to static electricity, but rather to state briefly the characteristics and effects of an invisible agent, which seemingly has been responsible for a vast number of fires and explosions, and to enable us to discuss this subject more intelligently, thereby bringing about new methods of control in order to minimize the loss of life and commodities confined within the elevator storage.

STATIC ELECTRICITY OR ELECTRIFICATION BY FRICTION—If a piece of hard rubber is rubbed with flannel and then brought close to bits of paper it will be found that an attraction exists that will cause the paper to jump toward the rod. This sort of attraction, which is so familiar to us, was observed as early as 600 B.C., when it was found that rubbed amber draws to itself threads and other light objects. It was not until approximately one thousand years later that it was discovered that the same effects could be brought about by rubbing together a great variety of other substances besides amber and silk. For example, glass and silk; wax and flannel; hard rubber and cat's fur; etc. The effect which was produced upon these various substances by friction was named "electrification" after the Greek name "electron," meaning "amber," and the body that was affected was said to be electrified, or had a charge of electricity.

THE NATURE OF ELECTRICITY is not known with any certainty, but we are fairly familiar with the laws which govern its action. Static electricity in our modern times has ceased to be merely a curiosity, but has become one of the main troubles of practically every manufacturer where mechanical power is transmitted by frictional contact of two dissimilar materials. Electricity so generated continues to build up a charge until it reaches a pressure sufficiently high to overcome the resistance of a path to a body of opposite polarity when it manifests itself in the form of a spark. This is the theory upon which the lightning rod functions.

LIGHTNING.—Briefly, this action is as follows. As a charged cloud approaches a building it induces an opposite charge in the rod. This induced charge escapes rapidly from the sharp point. It will be seen, therefore, that lightning rods protect buildings not because they conduct the lightning to the earth, but because they prevent the formation of powerful charges in the neighborhood of the buildings on which they are placed. It is this same principle that is made use of in some of the controls of static which will be mentioned later.

Static electricity is credited with the cause of many fires and explosions, either directly or indirectly. There has always been a question in

the writer's mind as to just what percentage of fires in grain elevators has been caused by static. It is true that the same conditions exist in grain elevators that exist in other industries, as the equipment used generates static electricity. There is one difference, however, and that is that in grain elevators the condition of the air during the colder seasons of the year is more or less ideal for the accumulation of static charges, due to the lack of controlled humidity, moisture being one of the enemies of static.

It is not possible to prevent the generation of static electricity, but by a constant drain it can be prevented from attaining high potentials which sometimes reach pressures as high as 75,000 volts. The prevention of these high potentials is usually accomplished by grounding all parts of the machinery where static is likely to be generated. As pointed out in the earlier part of the paper, static is generated by friction and the potentials are greater on pointed objects than on blunt surfaces.

THE PROBABLE SOURCES of static in grain elevators are from friction on head pulleys, belt conveyor concentrators, wheat in spouting, and dust in the collector's system, and it is doubtful if any of these, with the exception of elevator legs, are of sufficient length between grounded parts to cause any great concern. However, this is my personal opinion, as I have been unable to obtain any definite information as to just how high potentials have been recorded in grain elevator equipment, except that higher potentials exist in equipment handling smutty grain.

Static charges can be removed by several other methods, such as ionization of air by gas flames, and by static neutralizers which ionize the air by high voltage or corona discharges, but in most cases these methods are more hazardous than the static itself. While it is possible, as mentioned before, to reach pressures of 75,000 volts, as a usual case the capacity back of this pressure is very low. Hence, the current could probably be conducted over a line drawn by a lead pencil. But for the sake of mechanical strength, permanent grounding, and a large amount of receiving capacity, it is necessary to use large surface conductors, especially where grounds are of considerable length, originating in the top of the working house. In order that the opposition to the flow of a high frequency discharge will be kept as low as possible it is necessary to limit the use of magnetic metals for grounds as far as practical.

High potentials are also more frequent where the velocity of the moving parts is high. This is also true of high velocity air and liquids, especially where the percentage of solids is high. A sawdust conveying system is one example of this and the introduction of moisture

into the stream has been very effective in overcoming static. The methods and control of static are comparatively few and the sources are great in number. This does not leave the elevator operator much choice, except to elaborate on one or more of the simple methods of preventing the accumulation of static charges rather than creating dangerous sparks by the application of metal combs or static neutralizers. There are several methods showing the presence of electric charges but the actual measurement of potential is usually made by electro-static-voltmeters.

Omaha, Neb.—The Commodity Credit Corp., on Sept. 12, raised its asking price for government-owned corn in the Omaha territory 1c per bu. to 71c, basis No. 2 yellow. A similar increase to 72½c was announced for the Kansas City territory. Other terminal prices were left unchanged with Chicago at 78c and Minneapolis at 73c.

Washington, D. C.—Wheat ground during August by 1,098 reporting mills totaled 79,748,852 bus., which produced 17,510,537 bbls. flour and 1,377,551,373 lbs. offal, reports the U. S. Bureau of the Census. This compares with 1,099 mills reporting grinding 79,395,181 bus. of wheat into 17,385,734 bbls. flour, and 1,386,960,227 lbs. offal during August, 1940. The report shows that 772 identical mills accounted for 95.7% of the wheat flour production during the month.

Pierce Modernizes Office at Mooreland, Ind.

Recognizing the important place held by merchandising of farm supplies in plans for the future of country elevators in central eastern states, V. E. Pierce, head of the Mooreland Grain Co., at Mooreland, Ind., has built an 18x30 ft. addition to his 20x30 ft., one-story, concrete block, office building.

The addition is of concrete block to match the old structure. It is divided into three rooms. One of these is the combination private and bookkeeping office where the multiple records required by taxing bodies and political farm planners may be prepared in comparative peace and quiet. Another is a farm seed storage room, where valuable legume seeds may be stored in safety. The third is a furnace room. The hot-air furnace in the latter is fitted with a circulating fan to draw air thru cold air ducts, warm it up, and return it to the four rooms of the whole structure.

The old 20x30 ft. office is now a single room. Old walls were torn out to convert it into a merchandise display and sales room with small hardware bins and merchandise shelves along the walls and display tables in prominent places. That part of the old office where the scale beam is located is separated from the merchandise display portion by a high counter at which both grain and retail business is transacted.

Comfortable working conditions for both summer and winter are assured in the completed structure by insulated ceilings in all rooms, by the ventilating fan on the furnace, and by louvers under the ridge of the roof at each end of the building, from which hot summer air can escape.

The most prominent window in the addition, altho not large, has been converted into a display window. This is the three-pane sheet glass window in the private office which faces the approach to the scale deck. Mr. Pierce has placed files under this window, utilizing the window space for merchandise display, and installed fluorescent lights to keep displays well lighted.

The Mooreland Grain Co. operates an 8,000 bu. elevator, a feed grinding and mixing plant, and has large warehouses from which it conducts its retail business in heavier farm supplies.



Manager V. E. Pierce in Doorway of Mooreland Grain Co.'s Expanded Office, at Mooreland, Ind.

Washington News

During the week ended Oct. 4, the C. C. C. made 384,000 bus. of old corn available for lease-lend shipments.

The tariff on flaxseed from the Argentine is reported to have been cut 50% to 32½¢ a bu.; on canned beef, 50% to 3¢ per lb.

The House banking com'te has scheduled a secret session to draft the administration's price control bill, which is expected to be ready for submission to the House.

Loan rates on corn will be about 70¢ per bu. this year, according to indications by the Commodity Credit Corp., where officials generally agreed the average for all states would be "not less than 70¢."

Sec'y of Agriculture Claude R. Wickard told a House appropriation sub-com'te that the present 49¢ per bu. penalty for marketing excess wheat over acreage quotas will likely be continued thru another year.

Fred W. Thomas, vice-president of the Larrowe Division of General Mills, Inc., Detroit, has accepted an appointment to the Office of Price Administration under Leon Henderson, and has been granted a leave of absence by his company.

Commodity Exchange Administrator J. M. Mehl told a House sub-com'te that a survey has shown speculation cannot be blamed for pushing up futures prices, even while the administration proposed to police butter futures to prevent excessive speculation.

C. B. Baldwin, Farm Security administrator, has urged a sub-com'te to ask Congress to transfer \$1,500,000 from the appropriation for the Department of the Interior to the Department of Agriculture for development of 14 irrigation projects in nine western states.

The Senate banking com'te has approved a \$1,500,000,000 increase in the borrowing power of the Reconstruction Finance Corp. Jesse Jones, federal loan administrator, testified R. F. C. would need additional funds within three months for the armament program.

Senator Bankhead has announced he would ask the U. S. D. A. to approve loan programs for crude cottonseed oil at 14¢ per lb., and for soybeans and soybean oil. He proposed prices of cotton, wheat, corn and tobacco be placed at not less than 115% of parity decreed by the U. S. D. A.

Senator Thomas has introduced legislation to change the base period for computing parity for farm products to raise parity for cotton by 2.55¢ per lb., reduce parity for corn by 6.5¢ per bu., and leave wheat virtually unchanged. Oats would be lowered by 11.1¢ per bu.; hogs by .93¢ per cwt.

The House has sent to the White House the final version of property seizure bill which empowers the President to take possession of articles or materials which he deems necessary for defense of the U. S. or aid to Britain. The bill is a compromise between House and Senate versions, both of which drastically limit the administration's original proposal.

The House has passed and sent to the Senate, legislation which would allow the farmer who produces less than normal yield of wheat on his allotted acreage, and who plants excess acreage, to market a quantity of wheat from his excess acreage sufficient to total normal yield from his allotted acreage, without payment of penalty.

Kansas' Representative Rees, protesting in the House against the A. A. A.'s 49¢ per bu. penalty on excess wheat planting declared bureaucratic control is making the farm situation "more lopsided." There is no quota election on corn, he said, altho corn production is sufficiently far over requirements to merit such an election. "Why not have an 'emergency' on wheat fed to a farmer's livestock and chickens?" he demanded.

More Grain in Dry Weather?

Two Russian scientists, T. T. Demidenko and R. A. Barinova, found that with phosphorus and potassium fertilization spring wheat yielded more grain under dry than under humid conditions, whereas with nitrogen the yield of grain or green bulk was higher under humid conditions. The transpiration coefficient was greatly reduced with nitrogen available, whereas it was higher with phosphorus and potassium under dry or humid conditions. The value of the transpiration coefficient was inversely proportional to that of yield. The air humidity affected transpiration, uptake of nutrients, their translocation, and the synthesis of organic materials.

Concrete Slab Tanks Increase Storage

Concrete slabs, mortised together, bound with iron hoops, then coated inside and out with water-proof cement, were used to build three grain storage tanks to raise the storage capacity of the Botkins Grain & Feed Co. at Botkins, O., to 60,000 bus.

Each of the tanks is 18 ft. in diameter and 55 ft. high. At the bottom of each tank is a concrete floor, over a sand and gravel fill, that falls at a 15 degree angle to drain thru man-hole doors into an 8 inch screw conveyor which returns stored grain to a leg in the company's 25,000 bu. elevator. The tanks are filled by a 12 inch screw conveyor from the leg head covered by a structural and sheet steel gallery over the tanks.

A fourth tank of the same size, and connected to the elevator by the same screw conveyors, houses a 250 bu. per hour Hess grain drier, with garner bins above and below it.

The Botkins Grain & Feed Co.'s enlarged plant is served by a side track from the B. & O. railroad. It is managed by Richard Maurer. Screw conveyors, motors, and spouting for the annex were supplied by Sidney Grain Machinery Co.; concrete slabs by Neff & Fry.

Insect Infestation of Rice

W. A. Douglas in U. S. D. A. Circ. 602 reports that at least 25 insect species attack stored rice or rice products, and 8 of these cause serious losses. This investigation demonstrated that the chief sources of field infestations of rice by insects attacking it in storage are storage warehouses, strawstacks, and corn and sorghum fields.

As many as 100,000 rice insects may be contained per ton of straw in rice strawstacks. Apparently no variety of rice is significantly resistant to insects that attack stored rice. The usual insect infestation found in seed rice does not affect germination.

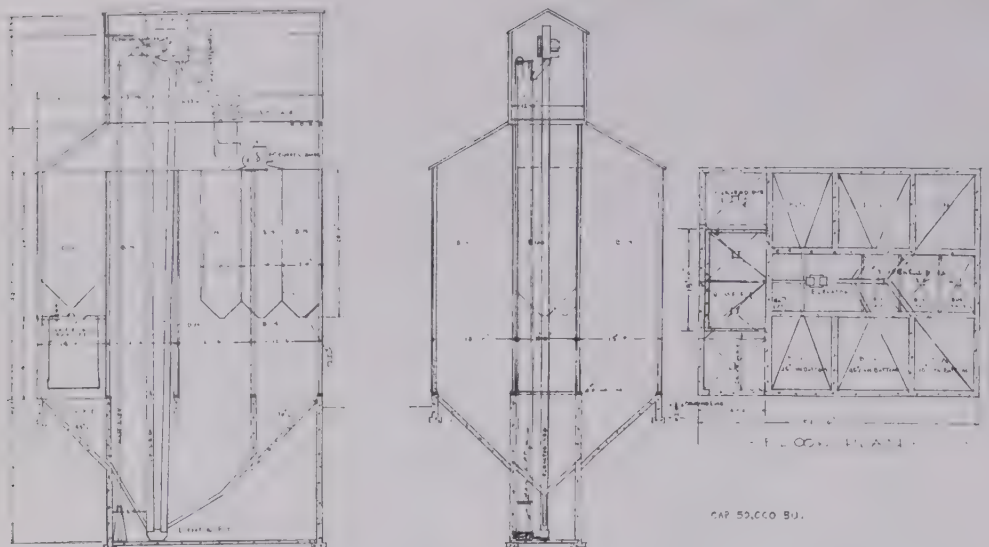
It is suggested that the number of insects taken into warehouses from fields can be reduced by cleaning warehouses thoroly and disposing of old grain before the new crop of rice heads, spreading strawstacks or burning them by the end of May, and avoiding the planting of corn or sorghum near rice fields.

About 400,000 bus. of cash corn have been ear-marked for shipment to England under the lease-lend bill, according to official announcements.

A new kind of farm program to replace the "regimentation" of the A. A. A., is proposed by W. A. Cochel, a Kansas City editor. "The A. A. A.," he said, "lends encouragement to inefficiency . . . and encourages dependence upon government rather than upon individual effort. . . . It should give encouragement to those who have consistently followed a system that results in soil conservation. . . . It should make compliance entirely optional and be so simple that the cost of administration would be reduced to a minimum." He proposed: "Each farmer could be given a quota, to which benefit payments would be added. When he has marketed his quota he should present his records and receive his check, which would make up the difference between market price and government guaranty. Any sales above his established quota should be on the open market without benefit."



Concrete Slab Tanks Increase Storage for Botkins Grain & Feed Co., at Botkins, O.



Sectional Views and Floor Plan, 50,000 bu. Elevator of James E. Smith, Union City, Okla.

Rapid Handling Oklahoma Elevator

Jas. E. Smith, formerly wheat buyer for General Mills at El Reno, a number of years back bought the elevator of the Farmers Grain Co. at Union City, two stations south of El Reno, Okla., on the Rock Island R. R., and by the application of sound business practices expanded the volume of trade to a point where the 17,000 bus. capacity was inadequate.

Instead of building an addition Mr. Smith decided to erect an entirely new and complete elevator just south of the old plant. J. V. McDowell was employed to design the house, and Henry Scheffe built the elevator, all the machinery for which was furnished by the Sidney Grain Machinery Co.

The building is 51 ft., 6 in. by 40 ft., and 70 ft. high, containing 6 large bins extending from the ground up 40 ft., 3 bins over the work floor and 4 bins over the driveway, giving a total capacity of 53,000 bus.

The large bins are 15 ft. by 12 ft. 6 ins., those over the work floor 7x10 ft. and 28 ft. deep. The concrete foundation supports walls of wood box construction covered with sheet metal and heavily reinforced with 3/4-in. oil field jet rods every 5 feet. The driveway is 13 ft., 6 ins. by 14 ft. high in the clear, under which is large receiving pit holding over 1,000 bus.

The elevator leg pit is 18 ft. deep, roomy, with manlift running down to the boot and up into the cupola.

The single elevator leg has a capacity of over 4,000 bus. per hour. The 10x6 Superior C. C. Hi-Speed buckets are spaced 7 ins. apart on the 12-in. 5-ply heavy duty rubber belt driven by a 15-h.p. totally enclosed gear reduction roller chain Sidney Head Drive. The boot pulley has ball bearings.

At the head are two Sidney Distributing Spouts, one 12-in. and one 9-in., one below the other. The 12-in. discharges to all the large bins and the 9-in. to the overhead bins. In the driveway is a 5-h.p. electric Sidney Truck Lift, the dump pit being of concrete, as are the hoppers of the deep bins.

In the cupola is an 8-bu. automatic Richardson Scale and a No. 60 Cleland Expert Cleaner operated by a 2-h.p. totally enclosed motor.

Washington, D. C.—The defense program is broadening commercial uses for corn, according to reports expecting early contracts for use of 20,000,000 bus. of C.C.C. corn in the manufacture of alcohol to be used in making powder. This quantity comes close to equaling annual use of corn by the nation's distillers, who took approximately 23,500,000 bus. of corn in 1940.

Soybean Processors Report Progress

Five hundred producers, processors and research men reviewed the past year's progress in the soybean industry at the twenty-first annual convention of the American Soybean Ass'n in Ames and Des Moines, Ia., Sept. 12 and 13.

The first day's sessions were devoted largely to agronomic phases of the industry with a field trip to the Iowa State College agronomy farm in the afternoon.

J.B. EDMONSON, sec'y-treas., said: Judging from the correspondence and the number of inquiries that have come to the secretary's office during the past year, interest in soybeans is continuing to spread to all classes of people and to many parts of the North American Continent. Literature has been sent, gratis, to several countries in South America, to Mexico, Canada, China, Australia, England, and South Africa. The plea for information on soybean culture and utilization is much the same everywhere. Many students in universities write for information to assist them in presenting papers, writing theses, etc. on this subject. The Ass'n is glad to furnish this material. The Soybean Digest has been of great assistance in supplying this information.

The Soybean is in the limelight today. As has been true in so many other instances, the peculiar qualities of this crop equip it to fit into many special needs. In this time of national stress, vast stores of soybeans are needed to promote our gigantic national defense program.

Dr. MARTIN G. WEISS, collaborator of the Regional Soybean Industrial Products Labora-

tory, reported that successful hybridization has been undertaken for lodge resistance, yield and the drying quality of the oil. However, the hybridization of the soybean, a self pollinated plant, is very slow work, and consequently any large amount of hybrid seed will not be available for release for some time.

Dr. L. K. ARNOLD of the Iowa State College Chemical Engineering Department, called for community sized crushing plants.

Dr. W. A. ALBRECHT of the University of Missouri reported on experiments showing that nodulation of legume roots is dependent on calcium content of the soil rather than acidity or alkalinity.

Hon. R. J. GOODE, former commissioner of agriculture for Alabama, in the banquet address, called for interregional co-operation in the removal of trade barriers.

Saturday's program brought a statement from Nelson Noble, manager of the Swift & Co., Champaign, Ill., plant, that in 1941-42 the quantity of soybean oil meal on the market will exceed cottonseed meal for the first time.

Dr. T. H. HOPPER, director of the Urbana regional laboratory, revealed that most of the interest in the laboratory experiments has centered around the extraction of protein for use in adhesives.

D. S. RAMSEYER, of the Ford Motor Co., reported that that company has developed a 30 per cent soybean protein fiber for use in upholstery, which has appeared satisfactory in tests to date.

Other speakers reported on the history of soybean processing, farm machinery and interstate trade barriers.

CLIFFORD V. GREGORY urged support of the U. S. D. A. "Food will win the war and dictate the peace" campaign.

Subject of praise by speakers and in the resolution was "The Soybean Digest," year-old trade publication of the soybean industry, published in Hudson, Ia.

OFFICERS and directors elected are: David G. Wing, Mechanicsburg, O., pres.; Joe Johnson, Champaign, Ill., vice-pres.; George M. Strayer, Hudson, Ia., sec'y and editor; J. B. Edmondson, Clayton, Ind., treas.; G. G. McLroy, Irwin, O., Ersel Walley, Fort Wayne, Ind.; Howard Roach, Plainfield, Ia.; Stewart Ormsby, Belleville, N. Y.; John Dries, Saukville, Wisc., and Jacob Hartz, Stuttgart, Ark., directors.

A resolution was adopted recognizing the valuable educational assistance to the soybean industry rendered by the B. & O. Railroad thru the operation of its soybean train thru the states of Ohio, Indiana and Illinois.

The Canadian Wheat Board increased the general wheat delivery quota for western Canada to 8 bus. per authorized seeded acre during August, an increase of 3 bus. over the August-September quota.

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Cost of Drying Grain

By T. H. MINARY, JR., Louisville, Ky.

Present conditions promise a wet corn crop coming to market. Once again the grain trade is faced with the cost of drying grain.

Let's take a typical and complete drying cost problem and solve it in the simplest manner possible:

PROBLEM

1. Original cost of wet grain—70c per bushel.
2. % moisture of wet grain—23%.
3. % moisture of grain after drying—15%.
4. Invisible loss in drying and handling— $\frac{1}{2}$ of 1%.
5. Elevator cost of drying and handling— $2\frac{3}{4}$ c per bushel (wet basis).

The first thing to do is find the weight shrinkage involved when drying from 23% moisture to 15% moisture with an invisible loss of $\frac{1}{2}$ of 1%.

If we put 1,000 bus. of 23% moisture grain in the drier and dry it to 15% moisture we will have only 905.88 bus. remaining out of the original 1,000. This is figured from the familiar drying formula: Percentage of Dry Matter after drying: Percentage of Dry Matter before drying: Original Weight: Final Weight.

$\frac{1}{2}$ of 1% invisible loss reduces the 905.88 bus. to 900.88 remaining out of the original 1,000.

1,000 bus. of wet grain at 70c per bus.	\$700.00
Drying 1,000 bus. of grain at $2\frac{3}{4}$ c per bus.	27.50

Total investment in original 1,000 bus.	\$727.50
--	----------

After drying, we have only 900.88 bus. remaining out of which to get back our original investment of \$727.50. Therefore, the new cost must be 80.75c per bus. and the complete cost of drying this grain was 10.75c per bus.

This complete cost of drying may be broken down as follows:

	Per Bushel
1. Cost of evaporation loss.....	.727c
2. Cost of invisible loss.....	.43c
3. Elevator cost of drying (dry basis)	3.05c
Total	10.75c

The above typical drying cost problem includes all of the five variables which must be included in any complete problem. We believe the majority of grain men are now familiar with the basic shrinkage formula for figuring evaporation loss but we have run into many instances where the invisible loss is ignored entirely and we very seldom find anyone who takes the trouble of converting his elevator cost from a wet basis to a dry basis. The dry basis cost is always higher than the wet basis cost and the wider the drying range the wider the difference.

In the above problem, for instance, failure to include the cost of the invisible loss results in an error of .43c per bushel. Failure to convert elevator cost wet basis into a dry basis results in an error of .30c per bushel. The two errors together total .73c per bushel, enough to eat well into your profit on a sale.

The errors, of course, increase with the increase of values for grain and also with the increase in drying range. For instance, with wet grain at \$1.50 per bushel and a 12 point drying range (from 27% moisture to 15% moisture), failure to include the $\frac{1}{2}$ of 1% invisible loss results in an error of 1.02c per bushel. Failure to reduce the $2\frac{3}{4}$ c per bushel elevator cost wet basis to a dry basis results in an error of .46c per bushel. The two errors together total 1.48c per bushel—enough to run you into a loss on many a sale.

Elevator cost Elevator cost wet basis x 1,000
dry basis =

Bushels remaining from 1,000

The method used in figuring the above prob-

lem automatically eliminates any chance of error in invisible loss cost and elevator cost. But very few grain men will go at it in this manner. They will have some kind of rough chart on their desk which will tell them about what their evaporation loss will cost at the current price range. On top of this cost they will slap an elevator cost wet basis and argue that this is near enough to being correct.

Sometimes it is. Sometimes it isn't.

Duty on Flaxseed Reduced One-half

Minneapolis, Minn., Oct. 18.—After negotiations, extending intermittently over a period of three years, Argentina and the United States on Oct. 14 signed a reciprocal trade agreement which will go into effect provisionally on Nov. 15, 1941, and will enter into full force thirty days after the exchange of the instrument of ratification of the Argentine Government and proclamation of the agreement by the President of the United States. Subject to certain special provisions, it will remain in force until Nov. 15, 1944, and may continue in force indefinitely thereafter. What is of particular interest to readers is that the duty on flaxseed has been reduced from 65c a bushel to $32\frac{1}{2}$ c a bushel. Provision No. 762 of the treaty makes the following statement in regard to flaxseed:

"Flaxseed (65c per bu. of 56 lbs.) 50c per bu. of 56 lbs. Provided, that on and after the effective date of this agreement, and until the thirtieth day following a proclamation by the President of the United States of America, after consultation with the Argentine Government, that the existing abnormal situation in respect of the trade in flaxseed has terminated, the rate of duty under this item shall be $32\frac{1}{2}$ c per bu. of 56 lbs."

The provisions of this treaty apply equally to every country except Germany. This means that such flax producing countries as Canada, Mexico and India will benefit from the reduced duty rate. As far as we know there are no export duties or export restrictions on flaxseed established by Argentina which will in any way impede the free movement of flaxseed from that country.

As may have been expected, markets in Argentina advanced after the signing of the treaty and our domestic markets have declined. In connection with prices for domestic flax, it

must not be lost sight of that a loan has been established by the U. S. Government on flax amounting to \$1.85 a bushel, f.o.b. Minneapolis. In accepting a loan of this sort American farmers must, of course, deduct the cost of storage which amounts to a total of 7c a bushel. If they are storing flax on their farms they must also deduct the cost of freight from their station to Minneapolis. The loan, however, does establish a floor under domestic flaxseed prices.

This week's exports from River Plate Ports are reported by Broomhall to be 567,000 bus., of which 118,000 are destined to the United Kingdom and 449,000 to the United States. This brings the year's total exports to 21,721,000 bus. Shipments to the United States during the period from Jan. 1 have totaled 17,323,000 bus.—Archer-Daniels-Midland Co.

Selling on Credit During a Rising Market

By JIM SALES

Every sale is a potential loss until the money is collected. No elevator operator who has seen a "best sideline account" fold up and fade away, leaving the elevator holding the sack for a good sized bill, needs to be told that. Experience has a way of teaching the importance of caution in extending credit.

During periods of rising prices, such as we are now experiencing, it becomes doubly important to tighten down loose credit policies. If a farmer buys a ton of feed on credit today at \$50, he owes you \$50. And if he pays you \$50 in 30 days he covers his debt. But if you attempt to use that \$50 to buy a ton of feed to put back in your inventory 30 days from now and you find that you have to pay \$60 for it, you've lost \$10 in addition to your gross profit. You can't make money doing business that way.

It doesn't work out quite that way, of course. The minute you sell a ton of feed, you mark up an order for a ton of feed to replace it. This is the way you "hedge" your inventory. And you keep following price increases in your retail sales regardless of the fact that the goods you are selling may have been bought at a lower price. This practice is your protection. It means in the end that when you extend credit to a customer you are performing a banking service without getting a banking income from it. If you don't charge in-

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terest on the account it means you've loaned a man money without interest until he pays it back.

And there you have another proposition. In the long run some of the folks to whom you loan money won't pay it back. This gives you the common garden variety of credit loss. But there is another kind.

Economists tell us the way to beat inflation is to borrow all the money you can and expand operations during periods of rising prices. When you pay off, you pay with cheap dollars. You pay off with money that has reduced purchasing power by reason of the increased prices for goods and commodities.

Whenever you do that the fellow you borrow from has to take a loss. He doesn't get back the purchasing power that he loaned.

It becomes obvious then that when you extend credit to a customer during periods of rising prices you are on the loaning end and will not receive the same purchasing power back unless you get enough return from the operation to cover this risk.

Which brings us right back to the proposition of selling feed for \$50 a ton today on credit and having to pay \$60 for a new supply. You can't make money that way.

Brand and Advertising Promotes Feed Business

A 100% gain in volume of feed business and a 300% increase in feed profits during the first six months of 1941, as compared with the first half of 1940, is credited by G. O. Weimer, general manager of The Rosewood Grain Co., Rosewood, O., to his adoption of a striking brand and his earnest pushing of his brand as applied to livestock and poultry feeds.

Weimer's brand is a picture of a brilliant red parrot, associated with two slogans. "Makes 'em grow," is the secondary slogan, so placed as to appear to be spoken by the parrot. Primary slogan is "It Speaks for Itself," used as a legend under the picture.

Fifty-four year old Weimer is "Red Parrot Feed" conscious about everything he does. Not only has he devoted months and years of careful study to the compounding of his formulas so that his feeds will live up to all the claims

he makes for them, but he recognizes that even the best of products will not sell themselves except as customers become acquainted with them. Most important single factor in making the consuming public conscious of a product is selection of a simple but attractive brand; second factor is constant advertising and constant repetition of the brand to fix it in the public's mind.

The simple line drawing of a screaming parrot on a perch is easy to remember. The brilliant red color screams for attention. The combination makes a single, easily remembered brand that will, thru constant repetition, come to mean quality poultry and live stock feeds thru the territory Weimer serves.

Weimer recognizes the importance of this constant repetition. The brand blazes from one end of his combination elevator and feed grinding and mixing plant. It fills a corner on each sheet of his stationary. It is imprinted on his feed tags, and on his invoices. It screams in the windows of his office, from the sides of his trucks, and on his mailing pieces. "Red Parrot Feed. It speaks for itself."

Purpose of the brand and advertising is to make the consuming public open minded and ready to accept his product. Weimer finishes the job with real salesmanship. He carries a sales manual with many photos of livestock fed with his feeds, with formulas, with laboratory tests of his feeds, with testimonials and other proofs of feed quality. With the acceptance created by advertising, these proofs clinch his sales, and are creating for him a bigger and bigger business.

Canadian merchant and custom mills ground 8,230,440 bus. of wheat during August, compared with 5,898,846 during August, 1940, and produced 1,852,139 bbls. of flour, compared with 1,291,451 bbls. of flour in August last year, to maintain a percentage output as related to capacity of 82.3, compared with 53.8. Cereal output, in pounds, with comparable figure for August, 1940, in brackets, was: Oatmeal, 180,444 (1,072,062); Rolled Oats, 18,993,153 (14,135,862); Corn Flour and Meal, 2,019,982 (2,165,268); Pot and Pearl Barley, 262,934 (372,937); and Buckwheat Flour 9,600 (99,015).

Receiving Books

For Grain Buyers

Farmer's Deliveries. A convenient form for recording loads of grain received from farmers. Tare weight is entered immediately under gross to facilitate subtraction. Two hundred pages of linen ledger paper, ruled 20 lines to a page, thus accommodating 4,000 loads. Well bound in cloth, with keratol back and corners. Order Form 380. Weight 2¾ lbs. Price \$2.50, plus postage.

Receiving and Stock Book for keeping a record of each kind of grain received in separate columns, so buyer may easily determine total amount of any grain on hand. Size 9¼x11½, 200 pages, with a capacity for 4000 loads. Well printed on linen ledger paper, bound in cloth with keratol back and corners. Order Form 321. Weight 2¾ lbs. Price \$2.50, plus postage.

Grain Scale Book, a combined Journal and Receiving book. Each man's grain is entered on his own page. Both debits and credits are posted to the ledger. Contains 252 numbered pages and 28 page index, size 10½x15½ inches, will accommodate 10,332 loads. Printed on linen ledger, bound in extra heavy black cloth covers, with keratol back and corners. Weight 5 lbs. Order Form 23. Price \$4.00, plus postage.

Grain Receiving Register is designed for recording the receipts of farmers' grain. Loads may be entered in consecutive order, or different sections of the book may be devoted to different kinds of grain. Book contains 200 pages of linen ledger paper, size 8½x14 inches, each of which is ruled for 41 entries, giving a total capacity of 8200 wagon loads. Well printed and substantially bound in full canvas. Weight 3 lbs. Order Form 12AA. Price \$2.55, plus postage.

Duplicating Receiving Book, designed to facilitate the recording of loads received from farmers. Book contains 225 leaves, size 12x12 inches with 33 lines each, perforated down the middle; the inside half of the leaf remains in the book, and the outer half with the same ruling printed on the reverse side, folds back over the inside half with carbon between. It may also be used by line agents in making daily reports. Check bound with canvas back, nine sheets of carbon. Weight 4½ lbs. Order Form 66. Price \$2.60, plus postage.

Grain Receiving Ledger, may be used first as a Stock Book by posting the receipts daily, weekly or monthly from some other portion of this book, or from any other scale book, giving a page to the grain handled; Second, as a patrons' ledger, by giving a full or half page to each patron; Third, pages may be used to enter each load of grain received in consecutive order under their respective headings. Contains 200 numbered pages with 44 lines to page, and a 28-page index, size 8½x13½, ruled with the usual column headings, including Debit and Credit columns. Printed on linen ledger paper and well bound in black cloth sides with keratol back and corners. Weight 2½ lbs. Order Form. 43. Price \$3.00, plus postage.

Form 43XX contains 428 pages same paper and ruling as Form 43. Weight 4½ lbs. Price \$5.00, plus postage.

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Left: Elevator and feed plant of the Rosewood Grain Co., Rosewood, O. Upper right: Manager G. O. Weimer (left) makes a point of his brand when talking to customers. Lower right: Mill foreman L. M. Hall sacking off poultry mash.

Grain and Feed Trade News

Reports of new elevators, feed mills, improvements; changes in firms; fires, casualties, accidents and deaths are solicited.

ARKANSAS

Newport, Ark.—A flour and corn mill and grain elevator operated since 1928 by A. R. James, was destroyed by fire Oct. 10. The loss was covered by insurance.—J.H.G.

Jonesboro, Ark.—Grist mills are again humming in northeast Arkansas, where farmers are manifesting more interest in the production of wheat for milling into flour as a result of the rising cost of living. At the Farmers Mill & Gin Co. plant, milling of wheat into flour has been increasing rapidly, and many of the larger cotton plantations have started production of wheat. The threshed grain is made into flour and distributed to tenants of the farms. Many of the customers, however, are those who produce only small lots of wheat to be ground into flour as needed.—J. H. G.

Jonesboro, Ark.—Milling of the rice crop has started but harvesting is being slowed down due to lack of adequate labor. High wages paid by cotton growers was given as a cause. J. T. White, manager of the Jonesboro Rice Mill, said heavy rains held up the harvesting activities and when cutting of the crop did start, harvesting of the cotton crop began also, and the cotton picking wages of \$1.25 to \$2 per 100 lbs. attracted the laborers. The two local milling plants draw rice from Poinsett County, which has increased from 19,727 acres in 1939 to 27,176 acres in 1941; Clay, 1,655 acres (1939), 2,935 acres in 1941; Cross, 10,080 acres (1939), 17,942 acres in 1941; Jackson, 10,405 acres (1939), to 11,421 acres in 1941; Lawrence 1,883 acres (1939), 2,557 acres in 1941; and Greene, 140 acres, 1941, with no previous acreage reported. The current market price of nearly \$1 per bushel has brought a wave of optimism to rice growers who for several years have received no more than 40c to 50c for average crops.—J.H.G.

CALIFORNIA

Arlington, Cal.—Hugh McNicholl, owner and manager of the Arlington Feed & Fuel Store, has taken over the management of the Golden State Hatchery adjoining his feed store.

CANADA

Winnipeg, Man.—For the first time in the history of the Winnipeg Grain Exchange, facilities for trading in cash corn have been established. The first official price was posted on the quotation boards on Oct. 9.

Winnipeg, Man.—Profit for Western Grain Co., Ltd., for the year ended July 31 amounted to \$105,446.86, according to the recent annual report. The report showed the company has erected additional temporary bins at its country houses to provide storage for 2,500,000 bus., and has added additional storage space at its terminal elevator at Fort Williams, Ont., for 2,000,000 bus.

COLORADO

Melina (Fort Lyon p.o.), Colo.—J. H. Fimple of Los Animas has leased the local mill from the Alfalfa Milling Co. and will operate it as the Melina Alfalfa Milling Co.

Merino, Colo.—The W. C. Harris Grain Co. has closed its local elevator. Hal Gates, who has been its manager, will continue to operate the coal and feed business as an independent enterprise.

ILLINOIS

Maquon, Ill.—The R. P. Porch feed mill and its contents burned recently.

Fairview, Ill.—The Farmers Elevator Co. elevator was damaged by fire Oct. 8.

Stanford, Ill.—Ross Shields has succeeded W. E. Dalton, resigned, as elevator man for the Stanford Grain Co.

Hartsburg, Ill.—Andrew McGough has been employed as assistant at the Hartsburg Grain, Coal & Lumber Co.

Sheldon, Ill.—The Bishop Elevator recently installed an electric truck hoist bought from the Sidney Grain Machry. Co.

Atlanta, Ill.—The Eminence Grain & Coal Co., operators of an elevator near here, celebrated 25 years of service with an anniversary dinner on Oct. 11.

Whitaker, (Grant Park p.o.), Ill.—The Farmers Grain Co. has purchased a new Soweigh 30-ton scale with wood deck 40x10 ft., equipped with New Style Grain Beam.

Saunemin, Ill.—George Carson, manager of the Saunemin Elevator Co. elevator, who has been on a sick leave for the last three months, resumed his duties at the elevator Oct. 1.

Farmersville, Ill.—The Farmers Cooperative Elevator Co. is installing a new 30-ton Soweigh Scale with 34x10 ft. platform. Weights will be printed on the Direct Reading Type Recording Beam.

Milford, Ill.—Edwin Stanton Herron, who with his brother, T. C. Herron, bought the Milford Grain Elevator in 1899, and who had been active in civic affairs for many years, died recently.

Savannah, Ill.—Ilo Cook, operator of the Elizabeth Feed Mill, recently was overcome by gas fumes from a power unit being used to grind feed. He was revived and is reported to have suffered no ill effects.

Weston, Ill.—While at work in the Weston Grain Co.'s lumber yard on Oct. 3, Walter W. Luhning, company manager, struck a piece of lumber when turning his head and a piece of glass from his shattered eye-glasses penetrated the eyeball destroying the sight and necessitating removal of the eyeball.

Welland (Mendota p.o.), Ill.—The Penrose Elevator Co. has installed a new 34x10 ft. 20-ton scale and two head drives with 7½ h.p. motors. Both legs are equipped with new belts and Calumet Buckets. M. J. Schlessinger is manager of the elevator.

Ficklin, Ill.—The Co-operative Grain Co. elevator is now in operation, rebuilt and opened just three months after the previous plant burned on June 18. The new building, built nearer the office than the former elevator, has a capacity of 14,000 bus.

Fair Grange, Ill.—A. L. Hardin, 79, of Wyeth & Hardin, operators of the Fair Grange Elevator, died at his home in Charleston Oct. 8, following an illness of several weeks. Mr. Hardin had resided in Charleston since 1892, during which years he was active in the grain trade until his death, and was one of the highly esteemed citizens of the community.

Whitaker (Grant Park p.o.), Ill.—William Deutsch filed suit Sept. 27 for \$174.19 against the Whitaker Farmers Elevator Co., claiming the elevator violated his landlord lien on a corn crop. The complaint sets forth that John Buss was renter of Deutsche's farm near Monee in 1938 and 1939 on a share-crop basis and that the elevator purchased 428 bus. of corn from Buss in violation of his landlord lien.

Aledo, Ill.—Russell Sandquist and Luther Idstrom became sole owners of the Farmers Grain & Coal Co. when they purchased the business from E. J. Longley of near Aledo, and C. H. Jackson of Joy. Mr. Sandquist resigned as manager of the Mercer Service Co. He had held an interest in the Farmers Grain & Coal Co. for several years. The new owners will take over the business on Dec. 1.

Griswold (Cullom p.o.), Ill.—Harold Rittenhouse purchased the elevator and other buildings and equipment, also the dwelling house, owned by the Farmers Grain Co., at a sheriff's sale recently. Mr. Rittenhouse, who has been manager of the elevator for the Farmers Grain Co., will continue the business. Sale of the property was made by virtue of a writ of execution secured following the obtaining of a judgment against the company by Bert W. Adsit, attorney, acting for a number of noteholders. The company started in business Sept. 17, 1917, in a new elevator. Later it bought the local Rogers Grain Co. plant.

CHICAGO NOTES

The Board of Trade will return to Central Standard Time Oct. 27.

Michael John McCarthy, 64, a member of the Board of Trade since 1906, died Oct. 17 after an illness of several months.

Price of memberships on the Chicago Board of Trade remained unchanged at \$400. Posted offers for certificates were at \$425.

The Norris Grain Co. is installing two new receiving pits complete with shovels and jack legs in Illinois Central Elevator "A". H. G. Onstad has the contract.

William J. Doyle, 73, for many years a member of the firm of Doyle Bros., grain brokers, and a member of the Board of Trade from 1898 to 1921, died Oct. 13.

The Mid-Section of the American Ass'n of Cereal Chemists will meet Nov. 3 at the Board of Trade Grill when Dr. F. L. Gunderson, Quaker Oats Co., will talk on "Vitamins—A Brief Review of the Old and Something on New Development." All interested parties are invited.

Beware!

Notwithstanding we have frequently warned our readers of the sharp practices of unauthorized subscription solicitors, a number of swindlers using different names, but having no certificate of authority from us, continue to collect money for the Journals without ever being in our employ or having authority to represent us in any capacity. Calling on grain dealers, they always know that your subscription has expired and urge an immediate renewal for a long term. C. M. Balsley has forged our name to checks without authority and without sending us checks, money or order. Your bank should credit your account with all forged checks and return them to the agency presenting them for payment. Any information which will assist in stopping the swindling practices of these sharpers will be most gratefully received.

Grain & Feed Journals

CONSOLIDATED

CHARLES S. CLARK, Mgr.

A gross estate of \$453,427 was left by John A. Bunnell, former president of the Chicago Board of Trade, who died Dec. 9. The Federal tax was \$63,164, and the state tax \$7,608.

Paul E. Murin, of David A. Noyes & Co., has been named a member of the nominating committee of the Board of Trade. The committee is composed of John G. McCarthy, A. E. Hayes, R. E. Schuster, E. R. Bacon, Jr., George E. Booth, L. J. Ryan and Mr. Murin.

INDIANA

Forest, Ind.—The Sellars Grain Co. has been granted a charter.

Shirley, Ind.—Albert Anderson has resigned as postmaster and will devote his full time to the feed business.

Green Hill (Otterbein p. o.), Ind.—The new feed mill of Leo Feigel and Paul McKinnis is nearing completion.

Montpelier, Ind.—The Hoosier Grain & Supply Co. has installed a new style Sidney Revolving Screen Cleaner.

Valpariso, Ind.—The Valparaiso Hatchery is opening a feed mill. A 30 h.p. hammer mill is being installed.—A.E.L.

Daleville, Ind.—R. M. Shroyer installed a Kelly Duplex Vertical Feed Mixer, one ton capacity, at his elevator.

Fishers, Ind.—The Fishers Grain Co. recently installed a Kelly Duplex Vertical Feed Mixer, 1½ ton capacity with motor drive.

Tyner, Ind.—A 50 h.p. motor and hammer mill have been installed in the C. G. Wolf elevator, replacing a 30 h.p. mill.—A.E.L.

North Liberty, Ind.—C. G. Wolf is building a cob and dust house, which will be of the elevated and easy unloading type.—A.E.L.

LaCrosse, Ind.—The LaCrosse Grain Co. has completed the erection of a corn drier with oil burning furnace, and fire resistive building.—A.E.L.

Reynolds, Ind.—The Brownie Feed Store will add a hammer mill to its equipment. It recently purchased the coal yard of Theodore Wright.

Worthington, Ind.—For about the tenth time the safe in the office of the Worthington Grain Co. was opened by burglars a few nights ago.—W.B.C.

Hemlock, Ind.—The Hemlock Grain Co. recently installed a direct connected Bauer Hammermill complete with motor, bought from the Sidney Grain Machinery Co.

Holland, Ind.—The Holland Mills sponsored a banquet for its customers at the Holland gymnasium the evening of Oct. 9. Forty guests were in attendance.

Bourbon, Ind.—I. C. Stackhouse has been appointed manager of the Bourbon Elevator & Feed Mill. Mr. Stackhouse succeeds R. E. Eby whose death occurred Oct. 12 following an automobile accident.—A.E.L.

Delphi, Ind.—Clold M. Kerlin, 72, died Oct. 5 following an illness of a year. During the last few weeks he had suffered several paralytic strokes. When a young man Mr. Kerlin had become engaged in the grain business with his father and the Kerlin Elevator, founded by the latter in 1882, became known as Kerlin & Son. Altho stricken with blindness 15 years ago, he took an active interest in the management of the business. His two sons, Charles and William, became owners and managers of the elevator during recent years.

Terhune (Sheridan p.o.), Ind.—The Terhune grain elevator was leased to the Sellars Grain Co., a corporation with headquarters at Forest, that owns and operates elevators at Forest, Rustaville and West Middleton. Vernon Johns, of Forest, will be in charge of the elevator. The Terhune elevator was purchased by the late John W. McCordle in 1912, who operated it until his death in 1937.

Ft. Wayne, Ind.—The Northeastern Indiana Hay & Grain Dealers Ass'n will hold its regular dinner meeting in the Wayne Hotel the evening of Nov. 10. Following the regular business meeting a brief program of music and an address by F. E. Watkins, president of the Cleveland Grain Co., Cleveland, O., subject, "Quo Vadis," will be enjoyed. L. R. Rumsyre, sec'y, is anticipating a large attendance.

Bourbon, Ind.—Roy E. Eby, manager of the Bourbon Elvtr. & Feed Mill and a prominent civic worker, was killed instantly in a three-car accident near Logansport the night of Oct. 12. He and Mrs. Eby were accompanying their son and daughter and two other young people to school at Purdue. The son, Walter, was driving. After passing another automobile the Eby car and another collided head on. The auto just passed crashed into the wreckage, the driver unable to bring it to a stop. Mrs. Eby was seriously injured, the other inmates of the car not so seriously hurt.

IOWA

Frank Pierce (Kalona p.o.), Ia.—Jonas Y. Yoder & Son are building a feed mill.

Shelby, Ia.—Dow, Hale & Lerigo are overhauling their plant and constructing an office building.

Mason City, Ia.—The Farm Service Co. contemplates construction of a one-story brick warehouse.—F.E.

Vail, Ia.—Tracy North is erecting a 50,000-bu. elevator for corn storage on the north side of the old elevator.

Cedar Falls, Ia.—Cedar Falls Mills will rebuild its mill building that burned Sept. 28, and install new machinery.—F.E.

Stacyville, Ia.—During a recent storm one of the sliding doors at the Farmers Elevator was torn off by the wind.—A.G.T.

Harcourt, Ia.—Dorothy, daughter of Pete Greenfield, manager of the Farmers Elvtr. Co. elevator, was married to Reuben Peterson on Sept. 30.—A.G.T.

Kinross, Ia.—R. A. Fisher has installed a new Soweigh 20-ton Motor Truck Scale with wood deck 34x9 ft. Weights are taken on the New Style Grain Beam.

Forest City, Ia.—W. H. Drewes, proprietor of the Forest City Grist Mill, has shut down his plant temporarily while extensive repairs and improvements are being made.

West Union, Ia.—Seventeen local A.A.A. corn storage bins were overturned and carried about 400 ft. by a severe wind storm that swept thru the community early the morning of Oct. 7.

Des Moines, Ia.—The Hampton Feed & Milling Co., Hampton, and Grotewold Hatchery, Lake Mills, are new members recently enrolled by the Western Grain & Feed Ass'n.

McNally (Ireton p. o.), Ia.—H. M. Brown of Ireton has been engaged to operate the elevator recently purchased by Ben Magness. A 15,000-bu. annex will be constructed at once.

Ladora, Ia.—Ladora Grain & Feed Co. has purchased a new 20-ton Soweigh Scale with 22x9 ft. deck. Weights are printed on tickets by the Direct Reading Type Recording Beam.

Spencer, Ia.—The Tuttle Elevator on the Milwaukee railroad right-of-way was purchased by Charles E. Wood, owner of the Farmers Elevator at Langdon. The sale involved only the grain and milling part of the Tuttle business. Mr. Wood will take possession of the elevator Nov. 1.

Algona, Ia.—Frank W. Dingley, 75, died recently after a long period of ill health. Mr. Dingley had a long business career here, at one time operating the Algona Milling Co. business.—A.G.T.

Pleasantville, Ia.—Stephen Earl Funkenbusch, 45, who operated an elevator here prior to 1917 when he moved to South Dakota, died at the St. Joseph Hospital in Mitchell, S. D., on Sept. 21.

Marshalltown, Ia.—Albert Charles Reiss, feed dealer, has filed a voluntary bankruptcy petition in federal court at Des Moines, listing liabilities of \$7,449 and assets of \$1,500. He claimed \$500 as exempt.

Muscatine, Ia.—The Mississippi Valley Grain & Feed Co. has applied for war department certification that recent expenditure of \$25,000 for additional facilities was necessary to national defense production.

Varina, Ia.—George Schissel, widely known grain man and operator of the George Schissel elevator, died Oct. 5, after two weeks' illness of pneumonia. His widow, a daughter and one son survive.—A.G.T.

Des Moines, Ia.—The E. M. Fox Mineral Feed Co. has had its articles of incorporation amended and its name changed to E. M. Fox Co., Inc. Incorporators are E. M. Fox, D. J. Robinson, E. B. Fox, Jr.

Packard (Greene p. o.), Ia.—John McRoberts, who has been manager of the Bert Pooley elevator for the last two years, has purchased the Cole Implement Co. store at Greene and will take possession Nov. 1.

Iowa Falls, Ia.—Lucille Bottke, bookkeeper at the Farmers Elvtr. Co. elevator, recently married Paul Newton of Iowa Falls. She will continue in her present position until more definite plans are made.—A.G.T.

Iowa Falls, Ia.—Harold Bottke, who formerly was employed as a helper at the Farmers Elvtr. Co. elevator until his selection under the draft call, returned home on a furlough Oct. 7. Looks good and seems to be well taken care of.—Art Torkelson.

Hampton, Ia.—The Hampton Mill & Elvtr. Co. has built grain storage bins of 6,000 bu. capacity. William Bottke, formerly manager of the Farmers Elevator at Iowa Falls, is owner of the plant, taking it over Sept. 1.—Art Torkelson, with Lamson Bros. & Co.

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An Informative Series of Questions and Answers

No. 18 Following considerations of safety to life, health, plant and the grain itself, what are the other requisites of a grain fumigant?

Effectiveness in killing power, convenience of application and economy of use. An effective kill should protect the grain during the crop season. Convenience includes freedom from having to use cumbersome apparatus. Economy means low unit cost for effective results.

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Colo, Ia.—Robert Jack, 61, manager of the Farmers Grain Co. elevator for the past 28 years and with the company since its organization in 1906, died at Deaconess Hospital, Marshalltown, Oct. 7, from effects of a cancer from which he had been suffering for over a year.

Sheldon, Ia.—The Farmers Elvtr. Co. and the Chamber of Commerce will co-operate in holding a fall festival here Nov. 6, celebrating the completion of the elevator company's new 100,000-bu. elevator. The company started filling its elevator Oct. 16. Bert Struyk is manager.

Irvington, Ia.—A thief who recently broke into the Farmers Co-op. elevator office and stole \$35, gained entrance to the room by crawling thru a smashed panel thru which several previous robbers had squirmed in the past. He knocked off boards that replaced a panel knocked out several months ago by another thief.—A.G.T.

Murray, Ia.—Herbert L. Burgus, 40, a county corn sealer, died the night of Oct. 8, a few hours after he had complained of inhaling a "couple of whiffs" of a gas used in fumigating bins where government owned corn is stored. With Cliff Cochran he had been fumigating some steel corn bins here when he became ill. He drove his automobile to his home unassisted, but died within three hours.

Waukee, Ia.—The Superior Popcorn Co. has its storage and processing plant located two miles east, on Highway 6, near completion. When in operation it will permit processing of four million pounds of popcorn annually. The company, of which the Dixie Popcorn Co., Des Moines, is a subsidiary, has a smaller plant at Schaller, Ia. H. E. Breckenridge of Des Moines, is owner of both.—A.G.T.

Fort Dodge, Ia.—The Farmers Grain Dealers Ass'n of Iowa is sponsoring an essay contest for young farm people of Iowa, the subject, "Agricultural Co-operatives Contribute to Democracy." The closing date for registration is Dec. 1, 1941. Farm boys and girls who have not reached the age of 20 years on Jan. 1, 1942, with no higher education received than that of high school grades, are eligible. Registration may be made thru any farmers elevator or at the county agent's office. The final contest will be held at the annual convention of the ass'n on Jan. 21, 22, and 23, which will be held at Hotel Fort Des Moines.

Missouri Valley, Ia.—If a plant is established here to convert corn cobs into explosives, Joseph L. Guinan, local elevator man, stated in correcting mis-information that recently appeared in a featured story of a national magazine to the effect that such a plant had been built here and was already in operation, it will be a small one. Francis E. Wilkinson of Glendale, Cal., was pictured conducting the experiments, in three photos of him at work that appeared with the story printed. Mr. Guinan, manager of the local Loveland Elvtr. Co. and Francis Day, operator of that line of elevators, had Wilkinson do the experimenting for them. A small laboratory was built near the elevator, but no plant has been erected.

KANSAS

Beloit, Kan.—The Beloit Milling Co. sustained a small loss when high winds damaged its plant recently.

Marion, Kan.—The Marion County Co-op. Equity Exchange has installed a Kelly Duplex Corn Cutter and Grader.

Olathe, Kan.—Hal Robinson, manager of the Farmers Union Elevator, has rebuilt his corn shelling plant and installed an electric hoist.

Emporia, Kan.—Merlin J. O'Neill, for four years manager of the Emporia Elvtr. Co. elevator, now is employed by the Teichgraber Milling Co.

LeLoup, Kan.—The Star Grain & Lumber Co. has discontinued its elevator business here. The elevator was operated during the past summer with Jack Jewell in charge.

Meade, Kan.—J. W. Edwards, manager of the Co-op. Elvtr. & Supply Co. elevator, has rebuilt the road leading to the elevator, making a well drained road, a much needed improvement.

Ogallah, Kan.—Alvin R. Dreiling, for several years manager of the Ogallah Co-op. Ass'n elevator, recently resigned to enter defense work at Wichita. Sylvester Dreiling, who has been employed at the elevator as assistant, was named new manager.

Herington, Kan.—The Continental Grain Co. is building a feed mill. The new 20x26 ft. building, located south of the elevator, will have a reinforced concrete foundation and will be built of corrugated steel over a steel framework, making it vermin proof. The latest type hammer mill and feed mixer will be installed, both to be electrically powered. The company will do custom grinding. G. F. Haefner is local manager.

Asherville, Kan.—Loose "V" belts transmitting power from motor to the head pulley of

the choked leg at the Asherville Grain Co. elevator recently caused a friction fire that an employee's quick resourcefulness and well filled water buckets combined to extinguish. The elevator was filled with wheat and the leg choked. The motor continued to run and the pulley slipped under the "V" belts, burning two of them in two. An alert employee noted the condition, shut off the motor, and hurried to the cupola to investigate. Already a fire was gaining headway. He went into action with water from the nearby barrel. It was a battle but he put out the fire. The fire extinguisher on the manlift was never thought of in the excitement. The loose "V" belts were blamed for the fire. At proper tension, when the leg clogged the motor rotor would have stalled and the circuit fuse blown, or relays tripped out on the starter and no damage done. It was a close call from an oversight the elevator operators thankfully stated would not occur again. They are to be highly commended for the diligence in keeping barrels filled.



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Engineers and Contractors

Minneapolis, Minn.

Larned, Kan.—The Bowen Flour Mills Co. plant was badly damaged by fire on Oct. 3.

Junction City, Kan.—Lloyd Morrison, Roxbury, Kan., elevator operator and farmer, has purchased a part interest in the local properties of the Farmers Elvtr. & Supply Co., which include the elevator now under lease to the Hart-Bartlett-Sturtevant Grain Co., a warehouse, sales pavilion and stock yards and filling station. Mr. Morrison also has leased a portion of the warehouse, to be used for storage space in connection with his contract to furnish 150,000 bus. of oats for government use at Ft. Riley.

KENTUCKY

Henderson, Ky.—Ira Justice has opened a hatchery and feed store.

Edmonton, Ky.—Pulliam Feed Store has moved to the building recently erected by Lane & Sparks.

Paintsville, Ky.—The Great Northern Hay, Feed & Coal Co., a corporation, has been dissolved by unanimous consent of all the stockholders, and Oct. 20 the business assets, good will and trade marks were taken over by Lloyd Cole, the business to continue the same as heretofore, in all respects, under the firm name of the Great Northern Hay & Feed Co.

Lexington, Ky.—On warrants sworn to last week by Sterling T. Chase, general manager Lexington Roller Mills Co., two men were arrested and have since been held to the grand jury on grand larceny charges in connection with thefts of several thousands pounds of flour and feed from the mill. Earl Lowery, 30, an employe for eight years, was charged with taking and selling flour and feed belonging to the company and Frank Anderson, 31, was charged with knowingly buying stolen property. Lowery pleaded guilty to the charge, while Anderson pleaded not guilty. Lowery testified that he started selling flour and feed from the warehouse about five months ago and keeping the receipts. He stated that Anderson was one of several persons to whom he had sold flour and feed. Chase said that in May he discovered that Lowery had sold some mill product without turning in the receipts and Lowery at that time admitted having sold about \$70 worth, but agreed to work and pay it off.—A.W.W.

MICHIGAN

Merrill, Mich.—The Michigan Bean Co. plant was slightly damaged by recent high winds.

Webberville, Mich.—Chas. Cool & Son sustained a small loss recently on account of high winds.

Ashley, Mich.—Hubert Rose is the new manager at the Rockafellow Grain & Seed Co. elevator.

Jackson, Mich.—McLaughlin-Ward & Co. reported a small loss sustained at their plant from recent high winds.

Deerfield, Mich.—The Deerfield Co-operative Ass'n sustained a small loss at its plant from recent high winds.

New Ulm, Mich.—The plant of the New Ulm Roller Mill Co. was damaged by recent high winds. The loss was small.

Cheboygan, Mich.—The Daugherty Milling Co. is building a 30x40 ft. one story addition to its plant. Floyd Daugherty is owner.

Breckenridge, Mich.—The Breckenridge Bean & Grain Co reported a small amount of damage done at its plant by recent high winds.

MINNESOTA

Holland, Minn.—The addition to the Farmers Elevator is nearing completion.

Butterfield, Minn.—The Butterfield Feed Mill has been opened for business. F. A. Friesen is proprietor.

Meriden, Minn.—The Meriden Grain Co. is arranging for some improvements in its feed grinding department.

Wilmon, Minn.—A 15-000-bu. grain storage bin is being erected by the Geiger Const. Co. for the Brown Elvtr. Co.

Marshall, Minn.—The Farmers Elevator is setting up a number of steel grain bins to provide additional storage space.

Owatonna, Minn.—The Owatonna Milk Processing Co. is reported to be contemplating an expansion program in powdered milk.

March Siding (Warren p.o.), Minn.—The Farmers Elvtr. Co. has employed the J. H. Fisch Co. to move an elevator six miles.

Duluth, Minn.—Concrete walls are being constructed for the boiler room at the Universal Milling Co. on Twelfth Ave., West.—F. E.

Humboldt, Minn.—The Farmers Mutual Elvtr. Co. has obtained certificates of necessity from the federal government for \$11,000, for storage space.

Hinckley, Minn.—Ted Widdes, who has operated the Farmers Feed Store for a number of years, has his new building now fully equipped with up-to-date machinery.

Rowena (Clements p. o.), Minn.—The Farmers Elvtr. Co. elevator was entered by burglars recently and \$499.97 stolen from the safe. Entrance was gained thru a window.—F.E.

Hinckley, Minn.—The Hinckley Farmers Co-op. Creamery is moving its feed and flour business into the former Farmers Feed Store quarters. Howard Sikkink is in charge of the business.

Plainview, Minn.—James Lee Baldwin, who for many years conducted the Bennett elevator in the Pipestone community, has accepted a position as manager of the elevator of the John Dill Milling Co.

St. Paul, Minn.—The Ward Dry Milk Co. is reported to be planning construction of powder plants here, and at Albert Lea and Albany, to handle an anticipated huge volume of skim milk from adjacent creameries.

Thief River Falls, Minn.—The Osborne-McMillan Elvtr. Co. is constructing a 200,000-bu. storage addition to its elevator. It is expected to have the new structure completed by the last part of November.

Duluth, Minn.—Francis Hanson has been appointed chief deputy grain inspector, with office in Duluth, replacing J. E. Paulson who held that position for the past several years. Mr. Hanson held this same position some years back.—F.G.C.

LeRoy, Minn.—A modern mill will be erected by the LeRoy Co-operative Grain & Stock Co., with completion due in about six or eight weeks. An extension to the office is included in the mill and the mill will do all kinds of mixing, grinding and cracking of grains.

Northfield, Minn.—The Farmers Co-operative Elevator is building an elevator, warehouse and feed mill, the project to cost over \$25,000. The elevator, 30x33 ft., with 25,000-bu. capacity, will be erected north of the present one which will be remodeled. The feed mill will adjoin the new structure. Contract was let to the J. H. Fisch Co.

Twin Valley, Minn.—Henry Vehle, veteran elevator owner, recently sold his elevator to a local co-operative group affiliated with the Farmers Union, the new owners taking immediate possession. Harold Natwick, of Hadler, has been engaged to operate the business, to be known as the Farmers Co-operative Elevator. Until such time as he can take personal charge of the elevator, however, Levi Natwick of Gary will conduct the business.

Duluth, Minn.—Ely Salyards, president of the Duluth Board of Trade, has been elected to the board of directors of the City National Bank.—F.G.C.

MINNEAPOLIS LETTER

C. W. Shelley, a member of the Minneapolis Board of Grain Appeals, has been appointed chief grain inspector for Minnesota, succeeding Mons Jerdee, who retired Oct. 1 on a pension. Mr. Shelley has been engaged in work for the state grain department since 1911.

The engagement of Gilbert Gordon Giebind, sec'y of the Minneapolis Grain Commission Merchants' Ass'n, and Miss Mary Barbara Scott, Mason City, Ia., has been announced by the bride-elect's parents. The wedding will take place in the Christmas Holiday season.

The following Minneapolis firms were given governmental approval for expansion programs and certificates of necessity were issued by the National Defense Advisory Commission during the last half of September: Atlantic Elvtr. Co., \$6,000; Kellogg Commission Co., \$5,000; Russell-Miller Co., \$5,000; Victoria Elvtr. Co., \$5,000.

The Osborne-McMillan Elvtr. Co. has let a contract to the H. N. Leighton Co. for construction of a 140,000-bu. storage addition to its Shoreham Elevator, 29th Ave. and 5th St., N.E. Structural steel and reinforcing steel will be furnished by the Hustad Co.; M. Dwight Bell is the consulting engineer. The work will be completed by Dec. 1.

F. Peavey Heffelfinger is first vice-pres. of the Minneapolis Chamber of Commerce, having automatically advanced to that position from second vice-pres., following the recent election of Edward J. Grimes, formerly first vice-pres., to the presidency. Adrian M. Howard advanced from senior director to second vice-pres. E. H. Mirick became senior director. J. A. Bolton, pres. of Atwood-Larson Co., was elected a director to represent the grain commission merchants. Directors re-elected for two-year terms were M. R. Devaney, representing country elevator interests; A. M. Hartwell, representing flour mills; F. C. Lyman, representing shippers; C. E. Johnson, representing futures.

MISSOURI

Norton, Mo.—The Slater Mill & Elvtr. Co. reported a small loss sustained recently from high winds.

Webb City, Mo.—Considerable damage was done to the plant of Ball & Gunning Milling Co. by recent high winds.

Salisbury, Mo.—Lee Webster, 60, manager of the Farmers Elvtr. Co. elevator, died, following a paralytic stroke.—P.J.P.

East Prairie, Mo.—U. A. Swingle, 80, owner and operator of the East Prairie Milling Co., died at his home Sept. 21. Recently he suffered a heart attack which resulted in his death.

Kansas City, Mo.—The big barbecue party scheduled for Oct. 7 for members of the Kansas City Board of Trade by Paul Uhlmann on his farm near here, was indefinitely postponed because of recent rains.

Boonville, Mo.—The Boonville Mills has purchased from M. T. Devine his elevator in North Boonville. Mr. Devine will continue to operate it until December after which he, with his family, will depart on a vacation trip to Arizona. The Boonville Mills, headed by O. F. Kelley, operates six elevators.

STRATTON GRAIN CO.

MILWAUKEE, WIS.
CHICAGO, ILL. SPRINGFIELD, O. ST. JOSEPH, MO. NEW YORK, N. Y.
MILL FEEDS — FEED PRODUCTS — BY-PRODUCTS
Consignments and Future Orders Solicited

Steele, Mo.—The plant of the Denver Alfalfa Milling & Products Co. burned Oct. 16. The warehouse and stock were a total loss and 400 tons of meal were destroyed, the estimated loss, \$17,000. Cause of the fire is unknown.

Sikeston, Mo.—The 23-day strike at the plants of the Scott County Milling Co., here and in Dexter and Oran, was ended Oct. 8, when Mark Hurley, representative of the Office Production Management, met with mill officials and spokesmen for the union. The 200 employees of the plant in the three towns returned to work.—P.J.P.

Kansas City, Mo.—A fire that badly damaged the warehouse at the Kay See Mill had just been extinguished when the tornado of Oct. 6 blew away the warehouse and small grinding house while the large metal grain storage tank was whirled around and dumped on the other side of the mill. Mrs. Ed Hogan, wife of one of the proprietors, visiting the mill, was injured when she fell down thru an opening where steps had been before the wind blew them away. Loss \$25,000.

NEBRASKA

Primrose, Neb.—The T. B. Hord Grain Co. is repairing some of its buildings.

Lewiston, Neb.—The Derby Grain Co. has sold its elevator to J. M. Searcey.

Stella, Neb.—The Stella Grain Co. is building a 26,000-bu. elevator for shelled corn storage.

Bladen, Neb.—The Bladen Grain Co. has constructed a 2,500-bu. corn crib north of its west elevator.

Fremont, Neb.—The Nebraska Consolidated Mills Co. incurred a small loss when recent high winds damaged its plant.

Albion, Neb.—The Norfolk Cereal & Flour Mills Co. reported a small amount of damage done at its plant by recent high winds.

Ragan, Neb.—Carl Peterson, 57, grain dealer, died Oct. 16 while on a train en route home from a grain meeting at Kansas City, Mo.

Grant, Neb.—The Grant Equity Exchange is building a 32x48 ft. warehouse, of the same type of construction as the main elevator.

Bellwood, Neb.—A slipping belt caused a small fire in the Farmers Grain Co. elevator on Sept. 26, which was quickly extinguished.

Foster, Neb.—William D. Boschult, 67, who formerly operated an elevator here for a number of years, died recently of a heart ailment.

Helvey, Neb.—Ed Hansen has been named manager of the Farmers Union elevator, succeeding Rex Holtgrewe who resigned and has moved to Crete.

Dix, Neb.—Gene Binning is installing a new 20-ton Soweigh Scale with wood deck, 24x9 ft. Weights will be printed on the Direct Reading Type Recording Beam.

Omaha, Neb.—A meeting of the Farmers Elvtr. Ass'n of Nebraska was held Oct. 13 and 14 at the Rome Hotel. Next year's meeting will be at the Cornhusker Hotel, Lincoln, Neb.

Exeter, Neb.—Walter H. Barkmeier, manager of the Farmers Co-op. Grain & Oil Co., and Miss Virginia Thompson of Belvidere, were married Sept. 20. Following a short honeymoon they will reside here.

Alliance, Neb.—George Neuswanger is building a large warehouse and feed processing plant just north of his elevator. The warehouse will be 148x50 ft., the mill 32 ft. square. The Tillotson Const. Co. has the contract.

Nebraska City, Neb.—The Butler-Welsh Grain Co. will increase its storage capacity at its terminal elevator to 400,000 bus. by construction of a 50,000-bu. annex. It is hoped to have the new section in operation by Nov. 1.

Avoca, Neb.—We recently purchased a grain separator for our own and custom use. We also are planning on adding to our present storage capacity by erection of a 10,000-bu. addition and, when completed, will paint it and the present building.—Marquardt Grain Co.

NEVADA

Fallon, Nev.—The Fallon Flour Mill Co. plant was badly damaged by fire on Sept. 29.

NEW ENGLAND

Guilford, Conn.—The Emory R. Morse feed mill was damaged by lightning recently.

Lynn, Mass.—The plant of the Torrence-Vary Hay & Grain Co. was damaged by fire of incendiary origin Sept. 21.

Keene, N. H.—The R. H. Grandin Milling Co. warehouse was damaged by fire on Oct. 2. Faulty operation of an oil burner is reported as the cause.

Mansfield, Mass.—The Mansfield Milling Co. grain elevator was threatened by fire that originated in the cupola from an overheated electric motor Oct. 3. Four sprinkler heads unloosed a volume of water which extinguished the flames which spread quickly thru the accumulated grain dust, and the flames that ate thru the wood walls were checked and extinguished by firemen.

NEW MEXICO

Raton, N. M.—The Raton Flour Mills has installed a new 100-h.p. diesel motor.

NEW YORK

New York, N. Y.—Philip Rothrock, grain supervisor, and the grain division of the U.S. D.A., have removed to 225 Broadway.

Arcade, N. Y.—The Reynolds & Kohler feed mill and coal business located on Church St. has been purchased by Max Glow of Buffalo, who took immediate possession.

Buffalo, N. Y.—Feed and cereal workers returned to work at the Ganson St. plant of the Co-operative G.L.F. Mills, Inc., Oct. 13, after being on strike since July 1.—G.E.T.

Cobleskill, N. Y.—Fort Orange Feed Stores, Inc., has purchased the Cobleskill Milling Co. business and taken possession. W. B. Colyer, Jr., who was president of Cobleskill Milling Co., retains the business of manufacturing Kaple flours under his own name and will have operating headquarters in the big brick structure on Railroad Ave.

New York, N. Y.—The Port of New York Authority, at the request of the New York Produce Exchange, will make a survey of the possibility of constructing a marine terminal grain elevator in the city. Frank C. Ferguson, chairman of the Port Authority, pointed out that the burning of the Erie elevator a few months ago had aggravated conditions at the Port of New York, whose land elevator capacity has been reduced to 4,500,000 bus., of which 2,500,000 are on the New Jersey shore and the balance at the State canal terminal at Gowanus, Brooklyn.

NORTH DAKOTA

Lisbon, N. D.—The Carter Elvtr. Co. is repairing its feed mill.

Fargo, N. D.—The Interstate Seed & Grain Co. was issued a certificate of necessity for \$21,000, to be used in expanding its grain storage facilities.

New England, N. D.—Construction of an annex at the Bagley Elevator is nearing completion and a new 35 h.p. feed grinder is being installed. John Olson has charge of the work. Steve Zastoupil is manager of the elevator.

Fargo, N. D.—New members recently enrolled by the Farmers Grain Dealers Ass'n of North Dakota include the Golva Co-op. Elvtr. Co., Golva; Mandan Farmers Co-op. Elvtr. Co., Mandan; Farmers Elvtr. Co., Hazen; Farmers Uoin Elvtr. Co., Mayville.

Rolla, N. D.—A. W. Poyzer, 53, died unexpectedly on Oct. 8. One of North Dakota's veteran grain buyers, Mr. Poyzer was at Wolverton, Minn., three years, and at Mylo 19 years before coming to Rolla 10 years ago to become manager of the Farmers Grain Co.

Grain Contracts with Farmers

Form 10 D. C. is recognized as the best for contracting grain and seed from farmers, and is in extensive use by grain dealers. Do not take chances with verbal contracts. They lead to misunderstandings, differences and disputes, as well as loss of profits and customers. Contract certifies that farmer:

"has sold.....bushels of.....at..... cents per bushel, to grade No....., to be delivered at.....on or before....." It also certifies that, "if inferior grain is delivered, the market difference at which such grain is selling on day of delivery shall be deducted. Any extension of time at buyer's option."

Originals are printed on bond paper, machine perforated so they may be easily removed; duplicates are of manila. All have spaces ruled on the back for recording each load delivered on the contract. Check bound, size 5½x8½ inches, 100 sets numbered in duplicate and supplied with 4 sheets of carbon paper. Order Form 10 DC Improved. Price \$1.10, f. o. b. Chicago. Wt. 1 lb.

Triplicating book is same as 10 DC and contains 100 additional copies of the contract printed on strong tissue and 4 sheets of dual faced carbon. Order Form 10 TC. Price \$1.35, f. o. b. Chicago. Weight, 21 ozs.

Grain & Feed Journals

Consolidated

327 S. La Salle St.

Chicago, Ill.

Shipping Notices

(Form 3—Duplicating)

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Chicago, Ill.

Mott, N. D.—Theodore P. Svihovec, 35, manager of the Western Elevator, died Sept. 3.

Napoleon, N. D.—The Peavey Elevators elevator, closed while undergoing extensive repairs and improvements, reopened for business Oct. 3. The capacity of the elevator has been doubled from 20,000 to 40,000 bushels. The storage tanks hold an additional 20,000 bushels. Fred Wentz is manager.

OHIO

Rudolph, O.—The Liberty Grain Co.'s elevator burned Oct. 14.

Kalida, O.—Cy Kahle, manager of the Kahle Feed Mill, has installed a new Fairbanks 10-ton Scale with grain dump.

Sugar Ridge, O.—Fire early Oct. 8 destroyed the Sugar Ridge Grain Ass'n elevator. The loss, estimated at \$35,000, was covered by insurance.

Bellefontaine, O.—Kinnan's, recently opened, has installed a hammermill with motor, drive and feeder, bought from the Sidney Grain Machry. Co.

Millersburg, O.—The Farm Buro Co-op. of Columbus, recently installed a vertical mixer at the Holmes County Farm Buro, purchased from the Sidney Grain Machry. Co.

Seville, O.—The Seville Elvtr. Co. is sponsoring the purchase of 64 steers from Oklahoma for the new Medina County 4-H steer club which will be started soon.

Urbana, O.—The Sanisist Feed Products, Inc., has been incorporated, capitalized at \$6,750, with H. C. Trick, Herschel Straker and Frank A. Weller as the incorporators.

Upper Sandusky, O.—The U. S. Commission Co. is installing a Western Gyration Cleaner, large Western Corn Sheller with elevators, grinder drags, all furnished by John C. Troester.

Mansfield, O.—An explosion in the dust collector at the Cleveland Grain Co. elevator was followed by a fire that required two hours of fighting before the stubborn blaze was extinguished. Little damage resulted.

Waterford, O.—W. E. Bingham, proprietor of the Cash Feed Store, Beverly, O., has purchased the Waterford Roller Mill and real estate holdings from Edwin Pabst and Joseph Hartshorn, and will continue the operation of both businesses as separate units.

Toledo, O.—Robert Forrester, son of George R. Forrester, president of the Toledo Board of Trade, has become a student in the ground school of the United States Army Air Corps. He is stationed at Jefferson Barracks, St. Louis, Mo. Mr. Forrester has another son, Dr. Charles, who is with the Medical Air Corps.

Shiloh, O.—The grain elevator owned by Alfred James was burned to the ground by fire of unknown origin early the morning of Sept. 30. Destroyed with the building were the machinery; three carloads of wheat; a quantity of coal, lumber and other grain stored there. The loss was insured. Mr. James had purchased the elevator two years ago.

Toledo, O.—Industrial Soya Co. has taken over the Larowe Milling Co. plant on Main St. where it has started operations. A. A. Bame is head and sole owner. He formerly was with the Larowe Milling Co., and in 1937 became general manager of the Toledo Soy Bean Co., resigning from the position last July to form his own company.

Oberlin, O.—Virgil Twining, 82, former local resident and partner of the Gaber-Twining hay, grain and feed company from 1900 to 1905, died at the home of a daughter in Toledo, Sept. 23. Following the sale of the elevator, now known as the Oberlin Elevator, to Ward & Walker, Mr. Twining lived for a time in Cleveland, going later to Kipton, Bellevue and then Toledo.

Utica, O.—Lewis F. Branstool has taken over complete control and management of the Branstool Elevator, leasing the business from his father, George Branstool.

Elyria, O.—Lewis G. Bradstock, general manager and treasurer of the Farmers Grain & Milling Co., has relinquished active management of the firm after 27 years' service, to devote his time to other business interests. There is no change in the ownership of the milling company and Mr. Bradstock will retain his office and title, merely devoting less time to their duties in the future.

Defiance, O.—The monthly meeting of the Northwestern Ohio Grain Dealers Ass'n was held Oct. 13 in St. Paul's Lutheran School. Judge C. W. Palmer presided and E. L. Clemens gave the address of welcome. Speakers addressing the session were Sam Rice, Metamore, O., president of the Grain & Feed Dealers National Ass'n; C. S. Latchaw; B. A. Wallace, Ohio State University; S. D. Hollett, Fostoria; Pete Turner, Marion, O. A chicken dinner was served at 6:30 p. m.

High winds did considerable damage to elevators thruout Ohio in recent weeks. Among companies reporting small losses at their plants were Chickasaw Milling Co., Chickasaw; John G. Boggs, Elmwood (Circleville p.o.); Beard Elvtr. Co., Enon; Ohio Grain Co-op. Ass'n, Marysville; William M. Zollinger, Millersport; North Baltimore Grain Ass'n, Mortimer; Community Milling Co., Quaker City; Rural Grain Co., Weston; United Grain & Fuel Co., West Unity; Mineralized Yeast Mills, Ingomar; Pikeville Grain Co., Pikeville.

OKLAHOMA

Calumet, Okla.—The Farmers Grain Co. recently installed a Sidney Fan Sheller.

Nowata, Okla.—Stock owned by the Kansas Milling Co. was destroyed by fire Sept. 26, that spread from a nearby building.

Woodward, Okla.—The Kimball Milling Co. storage house south of here was entered by burglars recently and equipment valued at \$250 taken.

Enid, Okla.—The W. B. Johnson Grain Co. was issued a certificate of necessity for construction of grain storage facilities, the amount \$55,000.

Sentinel, Okla.—Jake Patterson is a new employee at the Reiter Grain Co., filling the vacancy made by the resignation of Bill Roden.

Woodward, Okla.—The L. S. Fisher Const. Co., Inc., has been granted a certificate of necessity by the federal government to expend \$59,000 for the handling and storage of grain.

Cushing, Okla.—The Hancock Feed Co. recently installed a Sidney Sheller, along with a ton Sidney Vertical Mixer with motor and drive, and a Sidney Steel Cut Corn Machine with collector.

Dawson, Okla.—The Sanders-Barnard Milling Co., located near here, will install additional machinery for "crimping" oats, a process that makes the oats easy to mix in a balanced ration for horse feed. The mill specializes in custom feed grinding and mixing.

Nowata, Okla.—The O. D. Blackwell Feed & Produce Co., whose quarters and stock burned Sept. 26, is doing business as usual in temporary quarters constructed on the ashes of the old structure. A new building is to be constructed to replace the one that burned.

Lawton, Okla.—The Farmers Union Co-operative Exchange recently completed a large expansion and building program and installation of much new machinery, including molasses mixing equipment. The new plant will manufacture a full line of chick mash, dairy and hog feeds. Custom grinding will be done, Otto Kluck, manager, stated, and a new feed product will be milled.

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PACIFIC NORTHWEST

Pomeroy, Wash.—Carl Bratcher is building a 10,000-bu. elevator on his ranch.

Philomath, Ore.—The J. A. Scarth Feed & Seed Co. plant was damaged by fire on Oct. 8.

Relief (Starbuck p.o.), Wash.—Columbia County Grain Growers is constructing a 125,000-bu. elevator to augment warehouse storage it has maintained here for years.—F. K. H.

Kirkland, Wash.—The Peterson Feed & Seed Store is authorized dealer in Albers "Proven" feeds following closing of the Albers Milling Co.'s Lakeside Feed Store here.

The Dalles, Ore.—The Sherman County Grain Growers are leasing river front land on which to build a bulk wheat terminal elevator. It was reported they plan to spend around \$150,000 in construction.

Davenport, Wash.—Donald Owens, who was inducted into the army last winter, has been discharged as over 28 years of age. He will return here. Before entering the army he was manager of the Sperry Flour Co.'s local warehouse.

Portland, Ore.—John Campbell of the grain department of Balfour, Guthrie & Co., resigned, effective Oct. 15. He had been with the company for the past 17 years. Mr. Campbell contemplates entering the grain brokerage business in Spokane.

Vale, Ore.—The Vale Grain & Feed Co. recently installed a new dodder mill. The company now offers a complete seed cleaning and warehousing service to its customers. The seed business will be concentrated in the stone warehouse leaving its main building available to handle its rapidly growing grain and feed business.

Portland, Ore.—Purchase of the Columbia dock, the central portion of the Interstate terminals, north of Broadway bridge, by Albers Milling Co., has been announced. The property consists of a 325-ft. frontage on N.W. Front Ave., extending back to the river. Improvements include the dock and warehouse, 300x220 ft., with a warehouse 215x290 ft. Some minor improvements and painting are planned and the new owners will continue to operate it as a part of the Interstate terminals.

PENNSYLVANIA

Sunbury, Pa.—Blank & Gottshall, Inc., flour and feed enterprise, has been sold at sheriff's sale to the Sunbury National Bank.

Pillow, Pa.—Fire of undetermined origin destroyed the mill of William E. Bohner on Oct. 7. The loss was estimated at \$20,000 with partial insurance.

State College, Pa.—Prof. H. C. Kandel has been elected sec'y of the Pennsylvania Millers & Feed Dealers Ass'n to fill the vacancy made by the resignation of George A. Stuart. The ass'n decided to hold two regional meetings in different sections of the state annually, with the annual convention to be held in Atlantic City.

SOUTH DAKOTA

Colome, S. D.—Lyle Manzer has succeeded Irl St. Clair in the Frescoln & Randle elevator.

Elk Point, S. D.—J. J. Mullaney & Son recently constructed a 2-bin 10,000-bu. storage annex to their elevator. Milt Smith had the contract.

De Smet, S. D.—Cecil Danielson, of Franklin, Minn., has taken over the management of the local Peavey Elevator succeeding Roy Anderson.

Yankton, S. D.—Workmen reporting for work at the Riley Arneson Elevator the morning of Oct. 8 discovered a fire that had smoldered all night when a hot bearing on a line shaft had ignited and burned thru a 10x10 timber on which it was mounted. The blaze was extinguished with only a small loss resulting.

St. Onge, S. D.—The Tri-State Milling Co. has installed gas for heating the offices of the St. Onge grain elevator. Albert Tetrault is manager.

Clark, S. D.—Peavey Elevators has purchased the local grain elevator which for the past seven years has been leased from the Wyman Estate and managed by E. H. Otterson.—F.E.

SOUTHEAST

Birmingham, Ala.—The Buckeye Feed & Grain Co. store was damaged by fire recently.

Conicville, Va.—The Green Brier Mill, owned by John Showman, burned the night of Sept. 30, together with a quantity of wheat and flour.

Columbia, S. C.—About 50 bales of hay stored in a wooden building at the rear of the A. K. Vest & Co. feed and seed store burned recently.

Warsaw, N. C.—J. C. Surratt is building a large roller mill on the west side of the railroad tracks, where flour, corn meal and all types of feeds will be ground.

Yadkinville, N. C.—Historic Vestal's Mill, a county landmark, was destroyed by fire recently, the blaze discovered in the basement of the structure about 20 minutes after operation had started for the day. A quantity of grain was burned. The mill was owned by Roby Shore and Marshall Chamberlain; D. A. Reynolds had leased the latter's interest however, and was co-operator with Shore.

Verona (Rolls p.o.), Va.—Fire destroyed the Augusta Roller Mill recently, including the structure's contents of 4,000 bus. of wheat, 300 bbls. of flour, 50 tons of feed and about \$3,000 worth of flour sacks. The loss was estimated at more than \$25,000. A contract for remodeling the plant had been let, but owners of the mill were unable to state whether it would be rebuilt. The mill was owned by the White Star Mills, whose principal plant is located at Richmond.

TEXAS

Plainview, Tex.—J. P. Wallace, chief grain inspector here for about 20 years, died recently.

Lariat, Tex.—The Kearns Grain & Seed Co. is building a 50,000-bu. addition to its elevator.

Amatillo, Tex.—The Kearns Grain & Seed Co. is installing a new grinder, mixer and other machinery at its local plant.

Lott, Tex.—The Ruble Grain Co. has been organized, capitalized at \$2,000. Incorporators are R. E. Ruble, Frank Bailey, Jr., Frank Bailey, Sr.

Groom, Tex.—The Farmers Grain & Implement Co. was awarded a certificate of necessity for \$12,000, to be used in expansion of its grain storage facilities.

Houston, Tex.—Felix Meyer & Co. have moved into larger quarters in the Republic Building, the same building in which they have been located, having consolidated their Fort Worth and Houston offices. All business will be transacted from their local offices.

Galveston, Tex.—Joseph R. Holmes, 71, federal grain supervisor here for 20 years prior to his retirement last July 1, when he was succeeded by W. F. Funchess, died Oct. 5. Mr. Holmes had many friends and acquaintances in the grain trade in this section of the state.

Fort Worth, Tex.—Felix Meyer & Company are consolidating their Fort Worth and Houston offices, and in the future all business will be transacted from their Houston offices. In doing this, Mr. Felix Meyer of the above firm states he believes he can better serve all of his customers.

Fort Worth, Tex.—C. G. Vaupel, formerly chief chemist for the Universal Mills, has joined the general sales division of Merck & Co., and will be engaged in the sales and technical services in the distribution of vitamins and chemicals to the flour, cereal and feed industry, with headquarters here.

Bishop, Tex.—The Bishop Milling Co.'s feed mill, largest south of San Antonio, was destroyed by fire early Oct. 2, at a loss estimated at over \$40,000, part of which was covered by insurance. The grain elevator, drier and storage tanks, with a combined capacity of about 100 carloads of grain, escaped with only a slight scorching. The mill shops were undamaged and the corn sheller, warehouse and mill office building were only slightly damaged. John A. Wuensche, president of the company, stated it was not decided whether or not the mill would be rebuilt at once. Origin of the fire was undetermined.

UTAH

Ogden, Utah.—The Farmers Grain Co-operative reported a small amount of damage incurred at its plant from recent high winds.

WISCONSIN

Merton, Wis.—Victor Rehbaum has sold the Merton Feed Co. to G. Polkinghorn.

Marshville, Wis.—The Theresa Co-operative Co. will erect a grain storage building here.

West DePere, Wis.—The A. G. Wells Co. sustained a small loss recently from high winds.

Shawano, Wis.—The local co-operative milk processing plant will be greatly expanded, it is reported.

Spring Valley, Wis.—The Valley Elvtr. Co. has installed a new attrition mill driven by 25-h.p. motors.

Ripon, Wis.—The Ripon Roller Mills Co. recently installed a Kelly Duplex Vertical Feed Mixer, 1½-ton capacity.

Janesville, Wis.—Ed Prisk has purchased the Graham Feed & Seed Co. formerly operated by Ray Farley and the late George Graham.—H.C.B.

Whitehall, Wis.—Land O' Lakes Creameries, manufacturers of dried skim milk, has filed with government officials for approval a plant project that will set up a central plant to serve creameries in this area.

Madison, Wis.—Based on reports submitted by feed registrants, the state department of agriculture estimates that farmers spent \$16,500,000, or about 5 per cent of the state's gross farm income, for commercial feed in 1940.—H.C.B.

Superior, Wis.—The Farmers Union Grain Terminal Ass'n's new 4,000,000-bu. elevator nearing completion is expected to be ready to receive and ship grain Nov. 10. It is located on the Wisconsin side of the harbor.—F.G.C.

Theresa, Wis.—The Theresa flour mill, built 42 years ago, recently sold by William Yunker to Peter Hartman, then sold to Arthur Sterr of Knowles, has been sold once more, to the Theresa Co-op. Co. The building is being torn down.

Superior, Wis.—Construction of bins for the Central Co-operative Ass'n addition to its elevator plant at Superior, Wis., has gotten under way by the T. E. Ibberson Co. The addition will add 50,000 bus. to the grain storage facilities of its feed mill.—F.G.C.

MILWAUKEE LETTER

Mark A. Farley, 85, first market reporter for the Milwaukee Grain and Stock Exchange, died Oct. 7.—H.C.B.

Quin Johnstone, sec'y of the Johnstone-Templeton Co., grain commission firm, and Miss Mary Jane Fawcett will be married Nov. 1.

Froedtert Grain & Malting Co., Inc., has appropriated \$300,000 to purchase and retire the firm's outstanding \$15 par cumulative convertible participating preferred stock.—H.C.B.

WYOMING

Lowell, Wyo.—The Big Horn Co-op. Marketing Ass'n. recently installed a Kelly Duplex Vertical Feed Mixer, ton capacity with motor drive.

Field Seeds

Juneau, Wis.—Harold Becker has opened a second seed and feed store.

Kansas City, Mo.—Wm. M. Casey, traffic manager of the Rudy-Patrick Seed Co., died recently, aged 57 years.

Mackinaw, Ill.—Pioneer Seed Corn Co. has rented the Legion Hall for six months to be used for storage space.

Biggsville, Ill.—Paul Stevenson has purchased a building in which he will open a retail seed and feed store soon.

Oxford, Ind.—Fire spreading from an overheated smokestack damaged the roof of the Farmcraft Seed Co.'s plant Oct. 1.

Boswell, Ind.—The Shriner Corn Belt & Hybrid Seed Co. will soon occupy its new building being constructed on state road 41.

Anamosa, Ia.—The Reid Corn Co. has been dissolved and merged with the National Hybrid Corn Co., as the Reid National Corn Co.

Janesville, Wis.—Ed. Prisk has bought the business of the Graham Feed & Seed Co., formerly operated by Geo. Graham and Ray Farley.

Manilla, Ia.—An additional grading room and six bins to double the storage capacity have been built in the Gruhn hybrid seed corn plant.

Randolph, Neb.—H. J. Kaiser has opened a seed store. He is expected to concentrate much of his effort on hybrid seed corn, which he handles for the Dalton Hybrid Seed Corn Co.

Thief River Falls, Minn.—The Peterson-Biddick Seed & Produce Co. has completed the additions to its plant. The second story is for the produce trade and the elevator for cleaning grass seed.

Treatment with light from quartz and sol-lux lamps lengthened the time during which seeds kept their germinating power, in experiments by C. Jensen of J. D. Quist & Co., Copenhagen, Denmark.

Minneapolis, Minn.—Construction work has started here on a \$90,000 warehouse by Northrup, King & Co., at 1500 Jackson St., N.E., four stories of masonry and wood construction, with concrete slab floors. It will be 70 x 132 feet. Contractor for the building is Barnett & Record Co.—F. E.

Philadelphia, Pa.—Burnet Landreth, chairman of the board of the D. Landreth Seed Co., died Oct. 4, aged 72 years, after an illness of two years.

Dallas, Tex.—Reed S. Lehman, San Antonio, and Mrs. A. V. Lawrence, Dallas, were elected president, and acting-sec'y, respectively, at the recent convention of the Texas Seedsmen's Ass'n.

It seems probable that the developments in new varieties and types of soybeans are going to come largely thru the production of new varieties by hybridization. The work which is being done at Iowa State College and in other states is the forerunner of the production of new varieties adapted to corn belt conditions.—Geo. M. Strayer, Hudson, Ia., sec'y American Soybean Ass'n.

Experimental evidence presented by W. A. Albrecht of the Missouri Exp. Station suggests a possible significance of calcium in the soil for better seed germination. Since its effect cannot be ascribed to changes in soil reaction, they must be related to a nutrient role, thus giving Ca in the soil an importance for possible practical attention in terms of exceedingly small amounts for significant benefits.

Washington, D. C.—Alfalfa seed production this year is estimated at 964,300 bus. of thresher-run seed, compared with 1,434,400 bus. last year, and 1,028,220 bus. for the 10-year average. This is one-third smaller than last year, and 6% below the 10-year average. Decreased production is attributed to reductions in acreage harvested and in prospective yields per acre, indicated for all important producing states except Wisconsin, Michigan and Ohio. Acreage for harvest is placed at 806,700, compared with 960,900 last year, and 556,150 for the 10-year average.—U.S.D.A.

Liscomb, Ia.—Geo. Smith is rebuilding and enlarging his seed corn drying house. Complete new machinery and equipment are being installed and will be housed in a small building separated from the drying house proper. A large furnace 24x48 with a stoker and fan, with a capacity of 20,000 cubic feet per minute, pulled by a 15-horse motor, will furnish the heat. Fourteen bins 6x8x11 are being built, each bin with a capacity of 100 bushels of dry shelled seed corn. An elevator and conveyor belt are also being installed to deliver the corn to the bins. A warehouse 24x30 for storage purposes was built last fall.

Washington, D. C.—Production of sweet-clover seed this year is about the same as last year, but slightly below average. It is estimated that 889,600 bus. (53,376,000 pounds) of thresher-run seed were produced this year, compared with 888,600 bus. in 1940 and 831,200 bus. the 10-year (1930-39) average. The increased production in Minnesota, North Dakota, Iowa, Nebraska, Montana, Wyoming, Colorado, and Wisconsin may be entirely offset by decreases in Indiana, Illinois, Michigan, South Dakota, and Kansas. Carry-over of clean seed on farms is placed at approximately 95,000 bus., compared with about 114,000 bus. last year. Seedsmen and important country shippers carried over on June 30, 1941, a total of about 119,000 bus., or 56 per cent of the carry-over a year earlier. Supplies (production plus farm and dealer carry-overs) of clean seed at this time, totaling approximately 907,000 bushels, are about 11 per cent smaller than those of last year.—U.S.D.A.

Windom, Minn.—The Turner Hybrid Seed Co., of Des Moines, Ia., has purchased land on which to erect a warehouse. A retail seed store also will be operated.

Jackson, Minn.—The business of the Seger Seed Co. is being continued under the same name by E. M. Young of Fort Yates, N. D., and Wallace Hier of Gettysburg, S. D., who bought the property of Mr. and Mrs. A. E. Allen. The business was established in 1918 by the late Dr. C. L. Seger.

Uton, a new oats variety with a large white kernel and resistant to both loose and covered smuts, was selected from Markton X Swedish Select. It has yielded somewhat higher than either parent in tests throughout the State, but differs little therefrom in date of heading or ripening, bushel weight, or lodging resistance. It is recommended to replace both of these varieties.—Utah Sta. Bull. 296.

Kernels of Clarage corn, sealed in glass tubes and containing 18 per cent moisture, remained viable after 6 years when stored at temperatures below freezing but died in less than 6 mo. at room temperature (about 30° C.). When stored at about 30°, kernels stored in oxygen died in 3 yrs. and in nitrogen or CO₂ decreased noticeably in germination, whereas those stored at low temperatures in these gases or air gave good germination after 5 years, at the Ohio Experiment Station.

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Florida Tests of Hybrid Corn

Yield tests with corn varieties and hybrids at the Florida Experiment Station and at Quincy, 1936-40, are reported on in Bull. 355 with comments on results of earlier tests by the station and tests on private farms, descriptions of corns of current interest, and discussions on the characteristics of a good utility type, reproduction in corn and methods of corn improvement, and the development, commercial production, and use of hybrid seed corn in Florida.

Recommendations include the station hybrid Fla. W-1 (Florida White Hybrid No. 1) for highest yields and good weevil resistance in the northern half of Florida; Florident White, high-yielding with medium weevil resistance, for the part of the crop to be fed in fall or winter; and McIntosh and Munroe Little Cob white corns of fair yield and good weevil resistance, for the part to be held in crib storage without fumigation into spring and summer.

Bin or Hanger Dried Seed Corn

Bin-dried seed showed no improvement in quality over corn hanger-dried under good conditions as judged by the Illinois Experiment Station in field tests with seed treated for seedling disease control, but under certain other conditions bin drying would probably have more value.

In field tests with representative samples of hybrid seed corn from 22 commercial seed production fields dried in hangers in the agronomy seed house and in drying bins operated by the seed producers, the former averaged 3.2 bu. better in yield over a 3-year period. There was no significant difference in yield between corn grown from seed dried at fast and moderate rates, but the slowly dried seed produced reduced stands and yields, attributed largely to fungus infection.

Total kernel infections after surface sterilizing the grain averaged 5.1, 18.3, and 69 per cent for fast, moderate, and slow drying rates, respectively. The prevalence of *Fusarium moniliforme*, *Penicillium* spp., *Nigrospora* spp.,

and *Gibberella zeae* was increased most by slow drying. Untreated *Fusarium*-infected seed showed some significant reductions in yield from the seed infection.

Northwest Crop Improvement Program for Coming Year

At the annual meeting of the Northwest Crop Improvement Ass'n, held Oct. 8 at the Minneapolis Club, Minneapolis, Minn., the following board of governors was elected: C. M. Hardenbergh (chairman), Henry E. Kuehn, Cargill MacMillan, Walter H. Mills, J. M. Chilton, Chas. T. Silversen, L. E. Voell, C. G. Ireys, E. C. Hillweg, Ben C. McCabe, P. B. Hicks, F. J. Seebach, Stanley Partridge, Frank H. Higgins, John W. Haw and E. J. Mitchell.

Appointed to the Executive Committee were: W. I. Nightingale (chairman), F. J. Seebach, L. J. Garlin, Frank H. Higgins, Chas. T. Silversen, R. C. Woodworth and R. N. McCaull.

Appointed to the Wheat Variety Committee were: R. N. McCaull (chairman), W. I. Nightingale, A. R. McRae, Chas. T. Silversen, W. W. Finch, Calvin Ireys and Norman Ness.

Appointed to the Finance Committee were: R. C. Woodworth (chairman), Ben C. McCabe, D. C. Moore, Chas. T. Silversen and E. C. Hillweg (Advisory).

The past year's work was discussed and a program and budget adopted for the ensuing year. The 1941-42 program will include a continuation of the milling and baking tests, seed clinics to analyze samples of farmers' seed grain, grain schools for elevator men and farmers, market grade exhibits, elevator surveys, market tours and co-operative assistance given to the extension services and experiment stations of the Northwest states in their crop improvement programs.

Indiana Farmers Selling Seed Must Comply with New Law

Under the newly amended Indiana Seed Law, to take effect on Jan. 1, the free seed testing service offered Indiana farmers takes on added importance. Seed samples submitted by Indiana farmers and dealers will be tested free, it is announced. Samples should be submitted as soon as the seed is recleaned and before Jan. 1, it was suggested.

The amendments to the Indiana Seed Law prohibit the sale for seeding purposes of seed containing any primary noxious weed seeds, more than one-half of one per cent of secondary noxious weed seeds or more than three per cent of all weed seeds.

This provision applies to farmers who grew the seed as well as to all dealers in agricultural seeds. The responsibility as to the weed seed content of seeds sold for seeding purposes rests with the seller, it is explained. In many cases a laboratory test of the seed is necessary to determine whether or not the seed is salable.

The State Seed Commissioner's office at Purdue University, Lafayette, Ind., offers the following suggestions which should be followed in submitting samples for test:

Send in a sample that is large enough. A cupful of clover or grass seed or a pint of cereals, soybeans and seeds of similar size is required for a complete test.

Make the sample representative of the lot by getting it from several parts of several bags of seed and mixing it into a composite sample. (Do not send samples representing individual bags in the same lot.)

Turkey Wheat Best at Texas Fair

Turkey wheat grown by W. J. Smith of Perryton is the grand champion wheat in Texas this year from the standpoint of utility value. This Turkey wheat entered in the special wheat milling and baking contest at the Tri-State Fair at Amarillo Sept. 29 to Oct. 4.

Closely following the prize winning Turkey sample was a Tenmarq sample grown by N. F. Cleavinger of Hart, Tex.

Combining the external appearance score and the milling and baking score of each of the eight samples milled and baked, the judges awarded first prize to Turkey, second to Tenmarq, third to Turkey, fourth to Tenmarq, fifth to Standard Blackhull and sixth to Standard Blackhull. The two samples of the miscellaneous class, which were Chiefkan samples, were poorest in quality and received the last two places in the contest.

Kansas Increases Hybrid Corn Acreage

Kansas hybrid corn plantings increased to 341,000 acres this year, compared with 244,000 in 1940, states the combined report of the U. S. Agricultural Marketing Service and the Kansas State Board of Agriculture. This is a change from 8% of the total Kansas corn acreage planted in 1940 to 13% of the total acreage in 1941.

Thus Kansas follows belatedly the lead of the corn states. The proportion of corn acreage planted with hybrids in Iowa this year is estimated at 95%, Illinois, 87%, Indiana 80%, Ohio 74%, Minnesota 64%, Missouri 45%, and Nebraska 32%.

Hybrid corn seed plantings have spread farther and farther thru the country. A survey by the U.S.D.A. shows Washington planted 24% of its total corn acreage with hybrid seed, New York 16%. Smallest advance appeared in the South where adapted hybrids have not been developed on a large scale. Texas planted only 2% of its total corn acreage with hybrid seed.

In 1941, 31,000,000 acres, or 62% of the total corn acreage in the Corn Belt, was planted with hybrid seed. This has further significance when it is realized that Corn Belt acreage of corn in 1936 when hybrids started, was 62,000,000 acres; this year it was 50,000,000.

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	September 1941	September 1940	July 1 to Sept. 30, 1941	July 1 to Sept. 30, 1940
Alfalfa	333,000	41,200	514,900	41,200
Bean, Mung	16,500	230,900	905,900	642,500
Bentgrass	...	8,900	...	11,300
Bluegrass, rough	...	...	...	500
Brome, smooth	376,600	148,900	399,700	183,200
Clover, subter'n	4,700	6,100	19,300	6,100
Clover, suckling	...	5,200	...	5,200
Clover, white	7,100	9,100	32,300	10,100
Fescue, C'w'gs	135,200	534,200	448,400	584,700
Fescue, m'dow	41,200	...	41,200	...
Fescue, other	...	500	100	2,800
Flax	...	...	200	...
Grass, Bahia	3,100	9,000	7,200	9,500
Grass, Bermuda	...	...	...	200
Grass, Carpet	11,200	...	32,900	...
Grass, Dallis	80,500	...	341,700	36,700
Grass, Guinea	2,200	...	2,200	...
Grass, molasses	6,400	...	6,400	...
Grass, orchard	...	...	...	1,000
Grass, rescue	...	4,100	...	37,200
Grass, Rhodes	1,200	1,200	52,200	31,400
Grass, velvet	...	...	...	2,100
Kudzu	...	...	...	1,200
Lupine	11,700	...	42,800	33,700
Medick, black	...	56,300	...	56,300
Mixtures, clover	1,000	...	11,200	...
Mixtures, grass	5,300	...	6,600	...
Oat	...	400	320,000	500
Rape, winter	...	...	...	240,000
Ryegrass peren'al	400	11,800	20,400	11,800
Ryegrass, other	...	...	...	...
than per.	11,400	...	14,900	...
Soybean	...	...	3,000	...
Sweetclover	100	80,400	400	81,900
Vetch, hairy	...	...	...	27,000
Wheat	...	6,300	6,400	6,300
Wheatgrass, crested	22,600	45,000	24,800	45,300
Wheatgrass, slender	...	1,800	...	2,900
Total	1,071,400	1,201,300	3,305,300	2,113,300

Corn Variety and Hybrid Performance

By WM. WIDAKAS, M.D., Ag. Exp. Sta.

Testing of corn hybrids and open-pollinated varieties for adaptation and yield in eastern North Dakota was initiated by the Agronomy Department in cooperation with the Extension Service, seed dealers and farmers cooperators in 1938. These tests were continued on a more extensive scale in 1939 and 1940. The detailed results of these trials have been published each year in hybrid corn field trial reports.

The growing season in 1940 was favorable for corn production, especially at Langdon and Dickinson substations and the yields of some of these hybrids were very good. Yields at Edgeley are lowest because of unfavorable growing seasons. The average yields for the last 2 years, however, do not justify recommending extensive hybrid corn growing in the northern and western part of the state. Early maturing open-pollinated varieties on the average yielded more grain than the hybrids at the Dickinson, Williston and Langdon substations. When compared with adapted early open-pollinated varieties, Minhybrid 402, Kingscrot E, Wisconsin hybrid 279, Kingscrot 125 and Tru-Krost 100, some of which were tested only for one year, were taller, bore ears higher on the plant and were more resistant to lodging than either Falconer or Northwestern. For the production of mature corn in northern and western areas, the growers must rely upon the adapted open-pollinated varieties until more data on the hybrid performance is available, or when new hybrids are produced that will meet the needs of these areas.

COMPARISON OF HYBRID MATURITY AND YIELD IN 1940.—The 1940 tests made it possible to compare the average performance of new hybrids tested in several areas in eastern North Dakota. Judging from the moisture content in ears at harvest, Wisconsin 279, Kingscrot 125, Minhybrid 402, and Tru-Krost 100 are comparable in maturity to Haney or Thorpe strains of Minn. 13 variety. Kingscrot 125 on the average contained the least amount of moisture and appeared to be earliest. All these above mentioned hybrids yielded significantly higher than the early strains of Minn. 13. The greatest increase in yield, however, was realized in the southeastern and east central areas where growing conditions were favorable. Wisconsin 279 on the average yielded highest, followed by Kingscrot 125 and Minhybrid 402. The average yield of Minhybrid 402 was somewhat reduced because of low yields in some trials. Other high yielding early varieties tested in three northern trials in 1940 were Rainbow flint and Pioneer Cross No. 1.

In maturity, as measured by the amount of moisture in ears, all the hybrids reported are comparable to the late (Mund) strain of Minn. 13 except Kingscrot D4 and Iowaleth W6 which are later. Kingscrot D4 was the highest yielding while Iowaleth W6 was the lowest. All these semi-late and late hybrids yielded more shelled corn than the late strain of Minn. 13 in the southeastern area. In the northeastern area represented by Gilby and Park River, Iowaleth 88 yielded highest, followed by Pioneer Cross No. 3, Kingscrot D4 and Kingscrot A. At the time of harvest all of the hybrids in the semi-late group were immature in the northern area and therefore are not recommended for the production of mature corn in this area.

EARLY NDAC EXPERIMENTAL HYBRIDS.—The N.D.A.C. experimental dent hybrids were earlier than Minhybrid 402 or Thorpe strain of Minnesota 13. When compared with Falconer they were equally as early but were more resistant to smut and rust, were taller and the ears were higher on the plant. These hybrids were handled with greater convenience and less waste at harvest than the Falconer variety.

In all areas the new N.D.A.C. hybrids were higher yielding than the early strain of open-

pollinated Minn. 13 variety. At Fargo, Edgeley, Mandan, Dickinson and Langdon they yielded either higher than or equal to Minhybrid 402. When compared with Falconer they yielded significantly higher at Fargo and Gilby while at Arthur, Williston, Edgeley and Langdon they were equal to or lower than Falconer.

Maximum Production of Bent Grass Seed

Southeastern New England is a natural grass-growing region, and in the past considerable Rhode Island bent has been grown for seed production. The amount and kind of fertilizer to use for maximum seed production presented an important problem, since over-application of nitrogen produced lodging of the plants, caused poor seed yields, and also handicapped harvesting.

As a result of an investigation by the Rhode Island Experiment Station it was indicated that a complete fertilizer analyzing 6-6-1 at the rate of 1,000 pounds per acre produced the maximum pure seed crop of Piper velvet bent, conforming to results with Rhode Island Colonial bent as influenced by the kind and amount of fertilizer. Production of Piper velvet bent on the acre basis is very similar to that of Rhode Island bent, but the return from the sale of the former is much greater per pound and consequently it is of more value as a crop for this region.

Growers are now following recommendations based on the experimental work and satisfactory results are being obtained. Another outcome of this work and a benefit to agriculture has been the development of a law and a system of grass seed certification which was used in 1940 for the first time.

Texan, a New Smooth Awn Barley

A new smooth awn barley named Texan, which is superior to other varieties hitherto tested or grown in the central Texas blackland area, is being made available to farmers this year. Texan barley was developed at the Denton Substation in the co-operative small grain breeding experiments conducted by the Texas Agricultural Experiment Station and the United States Department of Agriculture. The selection was made in 1933 by I. M. Atkins from a bulk cross of winter barley varieties made by Dr. H. V. Harlan, senior agronomist in charge of barley investigations, U.S.D.A., Washington, D. C.

Texan barley has been the highest yielding variety at the Temple Substation, but Wintex has made higher yields at other points in the state. Since Texan has been the best variety at Temple, it is being increased for distribution to growers in the central part of the Blackland region.

Texan barley is similar in growth habit to Wintex barley, which was developed at the Denton Substation and is now widely grown in Texas. The superior characters of Texan are its smooth awn; resistance to diseases; and superiority in yield in central Texas.

The smooth awn character (not beardless) will be of interest to stockmen. All varieties of bearded barley previously available in this state, have rough sawtooth like barbs on the beards which are not only disagreeable to livestock but which may cause injury to the mouths of livestock. Altho Texan is bearded, the beards do not have these barbs but are smooth and the grain may be fed to livestock without fear of injury. The smooth awn also makes the crop less disagreeable to handle in harvesting and threshing.

In plant characters, Texan is of the intermediate winter type which will head from either fall or spring seeding. It is recommended for fall seeding but if the fall-sown crop is lost by winterkilling it may be replanted in winter or very early spring.

Conditions Favor a Larger Crop of Winter Wheat for Nebraska

Moisture conditions for winter wheat seeding throughout Nebraska were described as "the best in years" by Glenn H. LeDioyt, Field Secretary of the Nebraska Grain Improvement Ass'n, as he wound up planting the Association's wheat tests last week. Based on present Nebraska moisture conditions the state should greatly surpass the 33,000,000 bus. produced in 1941.

The Nebraska Grain Improvement Ass'n continued its planting of farmers' samples of wheat this fall in 18 regional tests, which include all of the state's important wheat producing counties. At each test moisture penetration readings were taken. In some fields in western Nebraska on fallow land and again in eastern Nebraska, moisture had penetrated beyond the 7½ foot mark. Surface moisture was adequate at all tests. In eastern Nebraska the muddy fields held up seeding beyond the normal first week in October date.

There was a "keener than usual" interest for good seed wheat prior to seeding time this fall. Many farmers whose wheat winter killed in the fall of 1940 were either without seed or anxious to find seed of the hardy varieties. Certified seed growers announced exceptionally heavy seed sales this fall, especially of Nebred which proved the hardiest in last year's severe winter kill.

N. A. Dodd, western division director of the A.A.A., speaking before a group of A.A.A. officials from 13 western states at Salt Lake City, Utah, predicted restrictions will be lifted from most American farm crops in 1942. He believed acreage restrictions would remain on but a few surplus crops like wheat, corn and a few vegetables, but that the A.A.A. requirement that 20% of farm acreage must be devoted to soil building crops would continue in force.

Supply Trade

Chicago, Ill.—W. G. Bailey, head of the priorities division of the Office of Production Management, will discuss priorities Nov. 4 at 8 p. m. in the quarters of the Commission on National Defense, 176 W. Washington street, in the forum conducted for small businessmen by the Illinois Institute of Technology.

Zinc output dropped to 73,225 tons during September, compared with 75,524 in August, and 59,800 in September, 1940. Domestic shipments were 64,673 tons. On Oct. 18, Price Administrator Leon Henderson announced a new zinc price schedule, raising primary zinc 1c to 8.25c per lb. to stimulate and maintain production of the vital defense metal. "A price increase is necessary to expand supply," he said.

East Pittsburgh, Pa.—Capacitors with ratings from 2½ to 180-kva, 230 to 4160 volts, for outdoor mounting on poles or cross arms are described in a new 12-page bulletin announced by Westinghouse Electric & Manufacturing Co. Application, distinctive features, and construction details are discussed, special attention being given to discharge devices, terminal bushings, and overcurrent protection. Complete information on mounting methods and brackets is explained and illustrated with diagrams of typical installations. Outline drawings give physical dimensions of the more common capacitor sizes. A tabulation gives ratings, weights and styles. A copy of descriptive data 49-165 may be secured from department 7-N-20, Westinghouse Electric & Manufacturing Co.

Grain Carriers

The National Ass'n of Shippers' Advisory Boards will hold its annual meeting at the Stevens Hotel, Chicago, Nov. 10 and 11.

A 6% increase in carloadings of grain for the fourth quarter over last year's fourth quarter has been estimated by the 13 Shippers' Advisory Boards.

I.C.C. Examiner A. G. Nye has proposed denial of the Wabash railroad's petition in Finance No. 12473 to abandon 15.37 miles of branch line between Salisbury and Glasgow, Mo. Adjustment of operating costs allocated to the line was urged.

Hamilton, Ont.—H. Mitchell, professor of political economy at McMaster University, has expressed conviction that the St. Lawrence seaway and power project would constitute a vast, dominion expenditure having no essential bearing on the dominion's war effort.

Washington, D. C.—On order Oct. 1, were 57,891 box cars, reports the Ass'n of American Railroads. On the same date 671 new locomotives were on order compared with 215 on the same date last year. In the first nine months of 1941, railroads placed 29,048 new box cars in operation.

Oats and barley are now included in the reduced rates effected by western rail carriers June 1 on corn from Minnesota, Iowa, Missouri, and South Dakota to stations in Nebraska, Kansas, Missouri, South Dakota, Colorado and Wyoming, under a new authorization by the I.C.C.

Removal of restrictions requiring all-rail movement of commodities from river to interior points in the southwest is asked in a complaint filed with the I.C.C. by numerous river and private members of the Southern Water Carrier Conference, and others. They seek combination water-rail-motor rates.

By request of the Burlington railroad, the I.C.C., in Finance 13300, has dismissed application of this road for permission to abandon 105 miles of branch line from Sterling, Colo., to Cheyenne, Wyo. The C. B. & Q. hopes an increase in traffic on this line will be maintained, and justify continued operation.

Collapse of a railroad bridge across the Soo canal tied up lake shipping earlier in the month but, after some delay passage thru the blocked-off locks was restored. From the opening of navigation in April up to Oct. 1, the total tonnage of freight passed thru the locks reached 82,000,000 tons.—F. G. C.

The St. Louis Merchants Exchange has filed objections to the report of I.C.C. examiner, W. A. Disque, in fourth-section relief application No. 16500, grain and grain products within the western district. Denial of such relief to the direct line of the M. P. between Omaha and St. Louis, and the Burlington in Nebraska at points, Nebraska City to Rulo, inclusive, is sought.

Washington, D. C.—The Supreme Court has announced it will review the Kansas City transit case, involving transit privileges on grain at Missouri river rate break points, and will hear argument Nov. 17. The Missouri river markets would break the rule set up by the Interstate Commerce Commission in docket 17000, part 7, which provides that where proportional rates apply from market points, the proportionals shall be the sole basis of charge, because thru rates from interior points are often lower than the combination of proportionals. The rule has been sustained by the I.C.C. in a rehearing, and by a 3-judge federal court in the western district of Missouri, from which it has been appealed.

"A state in the exercise of its police power, with respect to public safety, may deny the application of a carrier to operate in interstate commerce," said Examiner W. L. Schubert in a recommended report in MC-1187, Cushman Motor Delivery Co., Chicago, served Oct. 1; but he denied state authority to deny an application on the ground that it was not required for public convenience and necessity.

Walla Walla, Wash.—The 8th annual meeting of the Inland Empire Waterways Ass'n will be held Oct. 29-30. The program includes inspection of the physical properties of the Walla Walla Grain Growers for moving bulk wheat to the river shipping points, and loading of Inland Chief, the wheat-carrying tug. Resolutions are expected on legislation before Congress proposing a Columbia Valley Authority.

Denial of a proposal of Heuer Truck Lines, Inc., asking authority for rates on salt from Hutchinson and Kanopolis, Kan., of 26c to Des Moines and Sioux City, Ia., and 28c to Hampton, Marshalltown, Walker, and Waverly, Ia., minimum, 80,000 lbs., or four truckloads, has been recommended by Examiner F. H. Schweickhardt in I. & S. M-1585. George C. Reed Transfer Co., Elliott, Ia., suffered a similar denial in I. & S. M-1931.

Chicago, Ill.—Western and official territory rail carriers have filed with the Interstate Commerce Commission briefs opposing rehearing and re-argument of the I.C.C. decision denying proportional rates on eastbound rail movement of grain received here by barge. These carriers contend that the decision places Chicago cash grain houses on an equal, competitive basis, instead of allowing preferential treatment of those having barge receiving elevators.

Attorneys of western railroads, replying to petitions for rehearing of I. & S. No. 4718, grain proportionals, ex-barge to official territory, by the I.C.C., have declared there is no continuity in movement of Illinois River grain east thru Chicago. They claim the status of such grain at rest in a Chicago elevator is the same as that delivered to the elevator by truck, or by rail on intrastate rates. The transit tariff, by its own specific terms, they claim, has no application to Illinois River grain.

A blanket commodity rate of \$1.10, minimum 40,000 lbs., on alfalfa, clover and timothy seeds from Montana points to Illinois, Iowa, Wisconsin, and Minnesota points, as proposed by motor common carriers, has been found unjustified by the Interstate Commerce Commission in I. & S. M-1401. Purpose of the proposal was to meet rail competition. Suspended schedules were ordered canceled by Nov. 1. A similar denial was proposed by the examiner in I. & S. M-1458, farm seeds, North Dakota to Minnesota, then to New York, Ohio and Pennsylvania.

The C., R. I. & P. has made a rate of 21c per 100 lbs. on wheat from Chicago to Houston or Galveston, Tex., when from Canada in bond to be milled at destination for export, in lots of 60 carloads, to compete with the barge line rate of 20¾ cents.

Grain and grain products were loaded into 40,180 cars during the week ended Oct. 4, reports the Ass'n of American Railroads. This was a decrease of 300 cars below the preceding week, but an increase of 792 cars above the corresponding week a year ago.

Driveway Observations

By TRAVELER

G. O. WEIMER, manager of the Rosewood Grain Co., Rosewood, O., took a tip from the filling stations to assure his customers of quick service.

At the approach to his scale deck he laid a rubber hose signaling device that rings a bell in his office when someone drives on the scale.

Mr. Weimer may become absorbed in other duties during business interludes without fear of failing to give prompt attention when a customer arrives.

The signaling device is only one of the aids to business he employs. When accurate grading of grain at country elevators first began to assume the importance it has reached today, Mr. Weimer built a wooden rack to hold a funnel two inches above a weight-per-bushel testing bucket. A board under the funnel kept grain from falling thru to the bucket, until the funnel was slid over a hole in the board. In this way Mr. Weimer was sure his test of grain weight would be accurate. The device is still in use.

Mr. Weimer utilizes a two-way loud-speaker inter-communicating system to speed up service for his customers. The master unit is in his office, and loud-speakers are located at key points in his combination elevator, feed grinding and mixing plant.

* * * * *

SINCE PRIORITIES have entered industry to interfere with normal installation of new equipment and repair parts, chances are that much old machinery in grain elevators will be kept in use and a great many repairs will be done "on the job."

Grain dealers are cautioned by safety experts to take proper precautions against fire and explosion hazards when employing repair men. Use of cutting and welding tools in the interiors of grain elevators carry with them the same sort of risk that results from careless use of a lighted oil lantern, or walking around the plant with a lighted pipe, turned upside down.

When hazardous tools must be used in making repairs, take careful precautions. Have someone handy with a fire extinguisher, and wet the floor and walls to lay the dust.

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Feeds & Feeding

by
F. B. Morrison

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Grain & Feed Journals

Consolidated

327 S. La Salle St.

Chicago, Ill.

Feedstuffs

Los Angeles, Cal.—The claim that a dog food is a "balanced ration for all breeds" of dogs is too broad in the opinion of the Federal Trade Commission, which has required the manufacturer to desist.

Brewers dried grains production in September totaled 10,800 tons, compared with 7,300 tons during September, 1940, reports the U.S.D.A. Agricultural Marketing Service. Distillers dried grains production was 17,700 tons, compared with 11,900.

During the last fiscal year the Remount Division of the Quartermaster Corps spent \$3,466,688 on more than 175,000 tons of forage. This included 94,058 tons of hay, 59,470 tons of grain, 21,506 tons of bedding, 549 tons of salt and 21 tons of soda ash. The 37,021 horses and mules supplement their prepared diets with pasture grass. The annual ration cost last year averaged \$103.94 for light horses, \$120.15 for heavy horses and \$93.40 for mules.

Washington, D. C.—The 1941-42 feed supply is 15 per cent above the 1928-32 average and the largest in more than 15 years. Live-stock numbers are increasing, and next January 1 they are expected to be 5 per cent higher than at the beginning of the present year. Although the supply per animal may be a little smaller than in 1940-41, supplies will be ample for heavy feeding. A larger disappearance of feed is in prospect for 1941-42.—U.S.D.A.

In a 129-day feeding test, coarsely ground wheat with alfalfa and grass hay was found to make a very practical ration for Hereford steers, the grains being 2.34 lb. per head daily. When the feed was made up of one-half wheat and one-half rye the rate of gain was 2.48 lb. There was a high dressing percentage, and the cattle were attractive to buyers. When molasses was fed in the ration the cattle consumed the same amount of grain, but the gain was only 2.31 lb. per head daily.—Oregon Exp. Sta.

Allied Mills has just announced some recent changes in personnel. Ben H. Focht, formerly assistant to the district sales manager in the Fort Wayne district, has been made director of a newly established sales training and merchandising division, with headquarters at Fort Wayne. L. H. Fairchild, who has served as district sales manager of the Omaha district for the past six years, has been added to the staff of the research division at Peoria, where he will assist Dr. Hunter and Dr. Rudv in research and educational work. Robert E. Day, who has served as assistant district sales manager of the Harrisburg district for the past four years, succeeds Mr. Fairchild as district sales manager at Omaha.

Two-Day Nutritional School in Ohio

Ohio State University and the Ohio Agricultural Experiment Station will combine their efforts and facilities to hold a two-day animal nutrition conference at the University, Columbus, Nov. 13 and 14, for feed dealers and manufacturers.

A full two-day program has been prepared. Copies of the program are available from Dr. T. S. Sutton, Ohio State University, Columbus, and Dr. R. M. Bethke, Ohio Agricultural Experiment Station, Wooster.

Feed Loans for Dealers

Gradon Swanson, sec'y of the Western Grain & Feed Ass'n, has learned from the president of the Commodity Credit Corporation that the Government will underwrite a blanket feed loan for any dealer thru the local bank. He says "a custodian, agreed upon by the feed dealer and the bank, and acceptable to C.C.C., will be empowered to regulate, police and generally supervise its operation. Eighty per cent of any loss due to price change will be absorbed by C.C.C., 20% by the bank."

Program of Feed Control Officials

At the 33rd annual convention of the American Feed Control Officials at Washington Oct. 30, 31, a wide range of topics will be covered by authorities in their specialty.

Investigators will report as follows: Alfalfa products, P. B. Curtis; bone products, E. F. Gerrity; brewery products, W. B. Griem; buckwheat products, C. R. Plumb; corn chop and related products, H. R. Creswell; cottonseed products, A. P. Kerr; dehydrated cereal grasses, R. L. Reed; distillery products, H. R. Walls; dog food, D. M. Doty; fish meal, W. C. Supplee; fluorine, D. M. Doty; imported oil cakes and meals, L. M. Jeffers; linseed and flax products, R. L. Willis; liver meal, D. M. Doty; milk products, H. A. Halvorson; mill feeds, G. S. Fraps; mineral mixture feeds, Paul Ijams; molasses, G. H. Marsh; peanut products, W. C. Jones; soybean oil meal, P. B. Curtis; vitamin, W. B. Griem; yeast, Paul Ijams.

Addresses will be delivered by R. M. Field, president of the American Feed Manufacturers Ass'n; by Louis Madsen of the U.S.D.A. on "Deterioration in Stored Feed"; by M. A. Jull, College Park, Md., on "Poultry Nutrition and Feed Law Enforcement"; by V. L. Fuqua on "So-called Fillers in Feeds," and by L. S. Walker on "Methods of Sampling Feeds."

Feed Prices

The following table shows the closing bid price each week for January futures of standard bran, gray shorts, cottonseed meal, soybean oil meal; spot bran, middlings, No. 1 fine ground alfalfa meal, in dollars per ton; No. 2 yellow corn, No. 2 yellow soybeans, in cents per bushel:

	Minneapolis		Kansas City	
	Bran	Midds	Bran	Shorts
Sept. 6.....	30.00	30.00	28.10	29.40
Sept. 13.....	31.00	31.00	28.75	29.80
Sept. 20.....	29.50	30.50	27.60	28.60
Sept. 27.....	29.50	29.50	28.40	29.40
Oct. 4.....	28.50	28.00	27.25	28.65
Oct. 11.....	27.00	27.00	26.35	28.25
Oct. 18.....	25.70	25.70	26.40	28.50

	St. Louis*		Chicago Soy-beans	†Memphis Soy-meal
	Bran	Shorts		
Sept. 6.....	31.20	31.65	...	36.90
Sept. 13.....	31.90	32.00	...	39.50
Sept. 20.....	30.70	30.75	179	34.60
Sept. 27.....	31.55	31.60	186	36.20
Oct. 4.....	30.10	30.60	...	34.95
Oct. 11.....	29.40	30.35	168½	33.25
Oct. 18.....	29.60	30.65	157½	32.85

	Cottonseed Meal		Kansas City		Chicago Corn
	Ft. Worth	Memphis	Alfalfa	...	
Sept. 6.....	42.00	42.70	26.20	76¾	...
Sept. 13.....	50.00	43.75	26.20	76¾	...
Sept. 20.....	52.00	38.50	27.20	74¼	...
Sept. 27.....	48.00	39.75	27.20	74	...
Oct. 4.....	47.00	38.40	28.20	72½	...
Oct. 11.....	46.00	35.95	27.20	68	...
Oct. 18.....	44.00	36.25	27.20	70½	...

*St. Louis bran basis Chicago delivery; shorts St. Louis delivery. †Decatur, Ill., delivery.

Program of Southern Mixed Feed Manufacturers Convention

The Southern Mixed Feed Manufacturers Ass'n has scheduled its annual convention to be held Nov. 6 and 7, in connection with the University of Florida's School of Nutrition at Gainesville. Speakers who will appear on the program include Dr. A. L. Shealy, of the Animal Industry Department, U. of F.; C. W. Sievert, American Dry Milk Institute; Phil S. Taylor, Florida state feed inspector; F. E. Boling, products development department of Purina Mills; Harold H. Hoffman, Florida's feed microscopist; Dr. Charles B. Cain, Royal Stalfolfe Mills, and J. E. Hunter, Allied Mills.

The convention will be under the direction of Sec'y E. P. MacNicol, Memphis, Tenn., of the ass'n.

Michigan Feed Dealers Study Nutrition

Michigan feed dealers, manufacturers, salesmen and country elevator operators met at Michigan State College, Oct. 9 and 10, for the College's annual fall conference on feeds and feeding problems.

Eighteen authorities, 13 from the college staff, a professor from Wisconsin, and four Michigan feed specialists, appeared before the conferees. Included were: Earl Weaver in charge of a dairy section conference; Dr. B. J. Killham on cobalt studies with cattle; Wisconsin's Gus Bohstedt presenting dairy feed formula factors; C. S. Bryan on mastitis controls; W. C. Geagley with details of Michigan's feed control law; George A. Brown on animal husbandry; C. G. Card on poultry husbandry, and G. K. Davis, C. L. Cole and Drs. E. S. Weisner and P. J. Schaible, with studies on relation of feeding to health, production, and quality of animals and poultry.

Trade authorities appearing on the program were Fred Rowe, Portland miller; A. J. Lohman, Hamilton Farm Bureau manager; J. H. Buswell, Kalamazoo advertising authority, and Fred Thomas, feed mill purchasing agent, Detroit.

Western Ass'n Conducts Feed School at Ames, Ia.

Dr. Paul H. Phillips, professor of biochemistry at the University of Wisconsin, was the principal speaker on a two-day short course in feeds and feeding, conducted at Iowa State College, Ames, Ia., and held under the auspices of the Western Grain & Feed Ass'n Oct. 3 and 4. Nearly 200 grain and feed dealers and feed manufacturers were in attendance thru both days of the course.

Dr. Phillips' first lecture was "Essential Considerations in Animal Nutrition"; his second, "Recent Contributions to Better Nutrition." Both of these excellent discourses will appear elsewhere in the Journals.

Iowa State College staff members, Dr. C. Y. Cannon, Dr. H. L. Wilcke, Prof. C. C. Culbertson, and Dr. B. H. Thomas, contributed markedly to the program to bring the current nutritional information of the visitors up to date on both livestock and poultry. They, with Dr. Phillips, made up a board of experts to answer the queries of the visitors in an open forum at the closing session of the school. Vitamins became visual during Dr. Thomas' demonstrations.

A part of the program was the visits to the Iowa State College Dairy Farm, Agronomy Farm, Swine Farm, and Poultry Farm, with short, descriptive talks at each stop.

Entertainment consisted of luncheons both days of the school, and a banquet the evening of the first day. George Godfrey was the banquet speaker, discussing farmer-dealer rela-

tionships, and the place of food production in National Defense.

A football game between Iowa State and Nebraska was the entertainment during the afternoon of the last day. To Iowans the score was a disappointment, further dampened by rain in the last quarter.

Credit for arrangements for the feed school, and the large attendance, goes to Graddon Swanson, sec'y of the Western Grain & Feed Ass'n, and college authorities.

Minnesota Nutritional School

Minnesota's University will hold its annual Animal Nutrition Short Course Oct. 27-28 at University Farm, St. Paul, Minn.

Speakers at the opening morning session will be J. B. Fitch, W. H. Peters, and H. J. Sloan, all of the University. Prof. Peters will take up feeding of molasses to livestock at the afternoon session. J. S. Hughes, of Kansas State College, will speak at the same session on Protein, Vitamins and Minerals for Meat and Dairy Animals. A panel discussion of methods for helping farmers with feeding problems will conclude this session.

W. E. Peterson of Minnesota's University will open the morning session of the second day with a study of How a Cow Makes Milk. He will be followed by H. S. Wilgus, Jr., of Colorado State College, with a discourse on the protein, vitamin and mineral requirements and sources of these for poultry. Free choice grain feeding for poultry will be reviewed by Prof. Sloan. L. S. Palmer will explain the Nutritional Value of Pasture and Grass Silage for Farm Animals.

L. M. Winters' discussion of progress in

breeding farm animals at the second afternoon session will be followed by L. L. Baumgartner, manager of the Litchfield (Minn.) Hatchery, in practical studies in mixing and selling feeds to farmers, and in a panel discussion of this subject.

The course has been prepared for feed dealers and manufacturers. Registration is \$3 for two days, \$1.50 for one.

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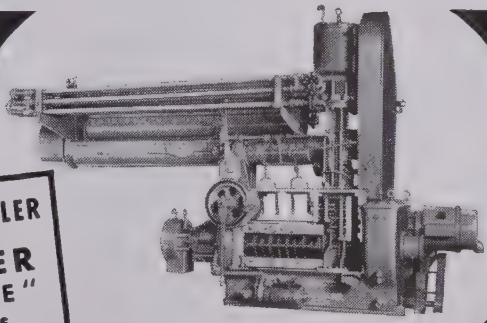
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Poultry Feeds and Feeding

Philadelphia, Pa.—The manufacturer of a poultry inhalant admits in a complaint filed by the Federal Trade Commission that its statement the inhalant "prevents serious disease outbreaks" is too inclusive; and that its statement the poultry regulator "would start more eggs coming in just 15 short days" was intended for fowls out of condition.

Chicks were found to require a supplement of at least 0.172 per cent of potassium in the diet to induce maximum growth, and over 0.13 per cent was needed to prevent heavy mortality, according to B. Ben-Dor, Univ. of California. Rubidium added to a ration containing 0.072 per cent of potassium slightly stimulated growth. These tests were carried out with eight groups of chicks on rations devoid of potassium to which from 0.076 to 0.4 per cent of potassium was added.

Nevada, Ia.—A feed laboratory has agreed with the Federal Trade Commission to discontinue representing that its products when used as supplements or poultry feeds will cause increased milk production or increase the milk solids when fed to dairy cows, will cause calves to thrive or keep sows and pigs in excellent condition, will cause faster growth or increase lactation when fed to hogs, increase the rapidity of growth of chicks or cause glossier wool or faster wool growth when fed to sheep.

Minerals in Poultry Nutrition

P. J. Schaible of the Michigan Agricultural Experiment Station finds that the importance of minerals to poultry has probably been exaggerated in the past upon insufficient evidence but recent research has contributed greatly to our knowledge of the need and functions of the various minerals. Whereas this work has indicated that certain elements are required by poultry, it has also shown that these are present in ordinary feedstuffs and, if the latter are blended together judiciously to provide a sufficiency of other nutrients, they supply an adequate amount of most minerals.

"Even tho the requirements for all minerals are not known at present and tho feed constituents vary in kind and composition in different parts of the country practical poultry experience has shown that only a few are likely to be lower in concentration than desirable. Occasionally, in specific localities or when unusual feedstuffs are used, more complex mineral supplements may be necessary but, if so, they should be purchased on a basis of feeding, rather than therapeutic, value.

"The grains and protein concentrates used in poultry rations depend upon local economics and, therefore, no specific recommendations can be given for mineral supplementation. Vegetable protein concentrates require the addition of extra mineral to be comparable to the animal products they displace. This situation becomes of increasing importance as new vitamin carriers permit the use of additional vegetable protein.

"Ordinary combinations of plant and animal products have adequate phosphorus but require additions of calcium either mixed in the ration or fed separately. An excess of phosphorus should be avoided in chick rations to prevent the development of perosis. Salt should be provided at all times and, if iodized, it will likewise take care of any deficiency of iodine in certain inland regions.

"The usual feed constituents contain sufficient iron and copper but it is customary to add an inexpensive manganese compound to poultry rations since they are sometimes low in manganese. Caution should be exercised where magnesium, fluorine, selenium, or sulphur are present in abnormal amounts because of their prob-

ably detrimental effects. Evidence favors the supplying of grit to poultry."

Wage-Hour Exemption for Egg Handlers

The Wage and Hour Division of the U. S. Dept. of Labor on Oct. 6 announced that:

If an establishment is within the "area of production" and is engaged solely in handling eggs and live poultry for market, the employees engaged in the handling operations are exempt from both the wage and hour provisions of the act under section 13(a) (10). On the other hand, if the establishment also slaughters and dresses poultry, then even tho it is within the "area of production," the exemption provided by section 13(a) (10) is inapplicable. Under these circumstances the only exemption available is that provided by section 7(c). If the egg handling operations are not within the "area of production" and are not segregated from the other operations carried on in the establishment, the employees are not within any exemption.

Steenbock Vitamin Patents Valid Rules Federal Court

District Judge Charles C. Cavanah, in the federal court at Los Angeles, Cal., has ruled that the three patents protecting the internationally famous Steenbock process for vitamin D irradiation are valid.

The decision came in the suit of the Wisconsin Alumni Research Foundation claiming patent infringement by Vitamin Technologists, Inc., a California corporation, whose president,

H. F. B. Roessler, had challenged the validity of the Foundation's patents on the irradiation process. The process was perfected by Dr. Harry Steenbock, professor of biochemistry at the University of Wisconsin.

Involved were millions of dollars in research funds, for the Wisconsin Alumni Research Foundation receives big royalties from milk companies and manufacturers of food and drug products who use the process, and allocates these to university research. Judge Cavanah's decision insures the Foundation's right to continued income from this source.

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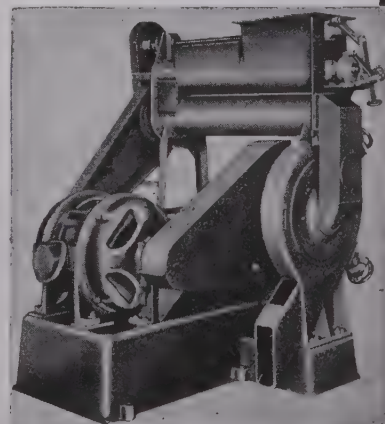
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Riboflavin of Poultry Feeds

T. G. Culton and H. R. Bird report in Poultry Science on the riboflavin content of poultry feed stuffs.

The riboflavin content of about 50 poultry feeding stuffs was estimated by the method of Snell and Strong with growth of *Lactobacillus casei* as criterion. Dried buttermilk contained about 70% more riboflavin than dried skimmed milk, the average values being 34.5, as compared with 20.6, micrograms per gram.

Five samples of dried whey had an average content of 20.6 mg. per g. No difference was found between dried buttermilk from sweet and sour cream, nor between dried skimmed milk and dried casein whey prepared in the same plant at the same time from the same milk source. The riboflavin content of dried skimmed milk and of dried buttermilk was unaffected by the seasons. The riboflavin content of individual samples of dried skimmed milk varied by 66.3% and of dried whey by 139.8%. The values for 3 samples of meat scrap varied from 5.8 to 13.4 mg. per g. and for 5 samples of fish meal from 5.4 to 8.1 mg. per g.

Soybean Oil Meal and Hatchability

At the Colorado Experiment Station a ration of ground yellow corn, dried brewers' yeast residuals, soybean meal, steamed bone-meal, salt, and vitamin D oil, which supported fairly good growth, allowed the production of severe goiter when feeds low in iodine were used. Both egg production and hatchability on this ration were low, but hatchability was improved by the replacements of part of the soybean meal and casein and oat groats and by wheat bran and meat scraps.

Hatchability was still further improved when a mixture of cereal products (corn, wheat, and oats) was added to the ration containing 6 per cent of soybean meal, but the hatchability did not equal that on a practical ration. Unless 5 per cent of meat scrap was fed, few of the chicks survived. The poor hatchability could not have been caused by a deficiency of riboflavin or manganese since the ration was supplemented with yeast and manganese. It is suggested that the poor reproduction was related to the goitrogenicity of soybean meal, which might stimulate the hypophysis and depress reproduction by excess amounts of thyrotropic or gonadotropic hormones.

Manganese in Laying Rations

The Texas Agricultural Experiment Station used in this study hens that had finished their first laying year and pullets that were just beginning to lay. The hens were selected on the basis of high hatchability and low embryonic mortality of their fertile eggs. The pullets were selected on the basis of high hatchability and low embryonic mortality in the fertile eggs of their dams.

The basal ration contained approximately 14 parts of manganese per million parts of feed and .102 A.O.A.C. chick units of vitamin D per 100 grams of ration. Groups of pullets and hens were fed the basal ration unsupplemented and supplemented with 30 and 60 parts of manganese per million parts of feed. The birds were not allowed access to direct sunlight. In order to limit the manganese consumption of the hens litter was not used on the floor.

The data suggests that a deficiency of manganese may affect hens more seriously than it does pullets. The hens used in this study required 44 parts of manganese per million parts of feed for satisfactory egg production and hatchability. The pullets required 14 parts of manganese per million parts of feed for satisfactory egg production and 44 parts of manganese per million parts of feed for high hatchability.

The embryonic abnormality known as chondrodystrophy, which has been attributed to a

lack of manganese in the feed of laying birds, was not encountered to any appreciable extent even in the low manganese ration. This is attributed to the fact that the birds were selected from families in which this abnormality was not prone to occur. From these data it is suggested that chondrodystrophy may be an inherited characteristic which expresses itself only when the hen is fed rations low in manganese.

Estimation of Quality of Protein Concentrates

Additional results to support the value of the chemical method of estimating animal protein quality are given by H. J. Almquist in the Journal of Nutrition.

White Leghorn chicks were used for the biological testing. Fish meal is considered the standard source of protein rather than casein because of the inadequacy of the latter in arginine and in glycine. Data are presented for fish meals, shark meal, cartilage, menhaden "stick," gelatin and several blends.

The method of calculating the protein quality index is given. The latter value ranged from 87.2 for sardine meal to 29.3 for sardine "stick" dried. Since menhaden "stick" also gave a protein quality index of only 34.8%, it is concluded that the hot-water-soluble proteins of fish are of low biological quality, and that blending of "stick" with regular fish meal lowers the feeding quality of the latter.

The use of the chemical method for vegetable protein concentrates has not been attempted by Almquist, who does not recommend it.

Carotene in Alfalfa Meals

Our results so far indicate that the alfalfa meals available to the feed industry today vary widely in carotene content, extremes of from 2.4 parts per million to 200 parts per million having been encountered.* If one were mixing a chick starting and growing mash and using an alfalfa meal containing 2.4 parts per million of carotene, he would have to put 62.5 per cent of alfalfa meal in his mash to meet the chicks' requirement, and even this ridiculously high figure would not allow for any carotene losses after the feed was mixed. An alfalfa meal used in poultry feeds should contain at least 50 parts per million of carotene.

When choosing between different lots of alfalfa meal, all of which are above 50 parts per million in carotene content, one should be guided by price in relation to carotene content. If a meal containing 50 parts per million sells for \$40 per ton, one containing 100 parts per million is worth approximately \$80 per ton as a source of carotene. Conversely, if a meal containing 200 parts per million is selling for \$60 per ton, one containing 50 parts per million is worth only about \$15 per ton.

The ideal way to buy alfalfa meal, for the person or company that is not in a position to make assays, is to buy from a lot of meal recently sampled and assayed by an impartial laboratory and found to contain a satisfactory amount of carotene. A recent assay is worth more than one made several months in the past, since the carotene content of alfalfa meals decreases under ordinary storage conditions.—Maryland State Feed Inspection Service.

*The units of vitamin A per pound, can be calculated by multiplying the value for the parts per million carotene by the factor 756.

Nicotinic Acid from Tobacco Plant

Besides the three cheaper sources of nicotinic acid, *Nicotiana rustica* is to be used to supply a demand 20 times as great as the total quantity manufactured in 1940. This year 200,000 pounds of nicotinic acid will be required for flour enrichment.

At the new eastern regional research laboratory in Philadelphia, chemists of the Department's Bureau of Agricultural Chemistry and Engineering are working to perfect the use of nicotine for making the vitamin product at a cost competitive with the coal tar source. They point out that if only nicotine were used in making all the nicotinic acid required this year in the United States, 17 to 20 million pounds of tobacco would be required.

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New Feed Mill at Wapakoneta, O.

Wapakoneta Farmers Grain Co., Wapakoneta, O., owns a new feed grinding and mixing plant as a result of increased demand for its feeds and grinding and mixing service. When business outgrew its old quarters, Manager Jim McClintock decided an entirely new building would enable him to improve service and at the same time reduce costs.

The new plant incorporates a 40x34 ft. two-story warehouse, a 20x34 ft. three-story mill building and 14x34 ft. driveway, all interconnected. A canopy extends over a loading dock on the retail side, where there are two sliding doors into the warehouse, and one into the mill building. Another sliding door at one end and a fourth on the back side of the warehouse may be used for both loading and unloading. Thus feeds and feed ingredients may be received from and loaded into trucks thru the warehouse at the same time without interference.

The driveway is fitted with sliding doors which may be closed off with a truck inside to prevent drafts from blowing meal about when it is loaded into trucks in bulk thru the bulk loading chute. In the driveway, also, is a dump sink for receiving whole grains or ear corn. A drag at the bottom of this sink delivers grain into a combined Sidney corn sheller and boot for elevation by 13x6 inch cups on a 14 inch leg belt driven by a 5 h.p. geared-head motor thru a roller chain head drive.

The mill building has three studded bins capable of holding 200 bus. each. One of these is a bulk meal bin. The others are grinding garner bins, and sacking bins. Sacking spouts deliver ground feed to the work floor of the mill.

Machinery in the mill building includes a Kelley-Duplex hammer mill in the basement run by a direct-connected 50 h.p. motor, and well supplied with a large variety of screens to give any desired degree of fineness in grinding.

On the work-floor is an 80 bu. Sidney Kwik-Mix vertical feed mixer with floor level feed for loading, and two sacking outlets. On the second floor is an Unique corn cracker and grader. On the top floor is a Sidney corn reel which removes cobs and husks from shelled corn delivered into the leg boot by the sheller. This reel is run by the same motor that runs the leg. Other machines are operated by individual motors.

The Wapakoneta Farmers Grain Co. operates a grain elevator, and a custom seed cleaning plant, and retails from its extensive warehouses a long line of farm machinery, seeds, feeds, posts, fencing, fertilizer, coal, gasoline and oils, and other farm supplies. Our photo of its feed grinding and mixing plant was taken before the

building was completely covered with galvanized sheet steel, a part of the construction that was delayed thru the summer months to allow the wood sheathing to dry out.

Advances in Vitamin Nutrition

By DR. W. E. KRAUSS, Ohio Agricultural Experiment Station, at University of Kentucky Nutrition School.

SHEEP. As in the case of horses, knowledge regarding the requirements of sheep for the various vitamins is meager. That vitamin D is needed by sheep was established some time ago, but the actual requirement for this factor must be low since it has been possible to use successfully corn silage as the only roughage in the winter ration of pregnant and nursing ewes.

Based upon work with other ruminants, it has been assumed that sheep require vitamin A. As in the case of D, the requirement for A would seem to be low since no improvement in performance was noted last winter at the Ohio Experiment stations in ewes fed up to 20,000 units of vitamin A daily as carotene over and above the amount present in the basal control group ration which contained ordinary winter farm feeds. This is in keeping with the California experiments which showed that adult ewes have a large enough storage of vitamin A to carry them along for a period of five months, including the breeding season, on a restricted vitamin A ration without adversely affecting fertility. Even ewe lambs that were seriously depleted of vitamin A at breeding time had creditable records, but gestation was unsuccessful.

The possibility of some other factor being associated with fertility in sheep must not be overlooked, as indicated by the following information supplied by Dr. B. H. Thomas of Iowa State college:

"Data obtained in a preliminary study with sheep indicate that their requirements for vitamin E are greater than those of goats. Five ewes which had been limited to the same vitamin E-deficient ration as had been fed to the goats failed to lamb any live young, whereas the reproduction of goats was unaffected.

"Whether or not the lamb crop of ewes fed practical rations can be increased by supplementation with concentrates of vitamin E is not known definitely. With this in mind steps were taken to obtain data of a preliminary nature. A flock of approximately 20 breeding ewes of proven fertility was divided into two reasonably uniform groups. Wheat germ oil was administered to one group weekly for two months by capsule. Otherwise both groups were handled identically thruout the breeding and lambing season.

"It is interesting to note that the percentage of lamb crop was larger for the group which

had received wheat germ oil. It should be borne in mind, however, that these data are insufficient to warrant drawing definite conclusions. This project is being expanded to include larger numbers of sheep."

That water-soluble factors play little role in this species was shown by McElroy and Goss of California and will be referred to later. Likewise, Pearson of Texas was able to grow lambs normally on a ration that caused cessation of growth and produced pellagra-like symptoms in dogs, showing that either nicotinic acid is not a dietary essential for this species or else the requirement for this factor is lower than for other species.

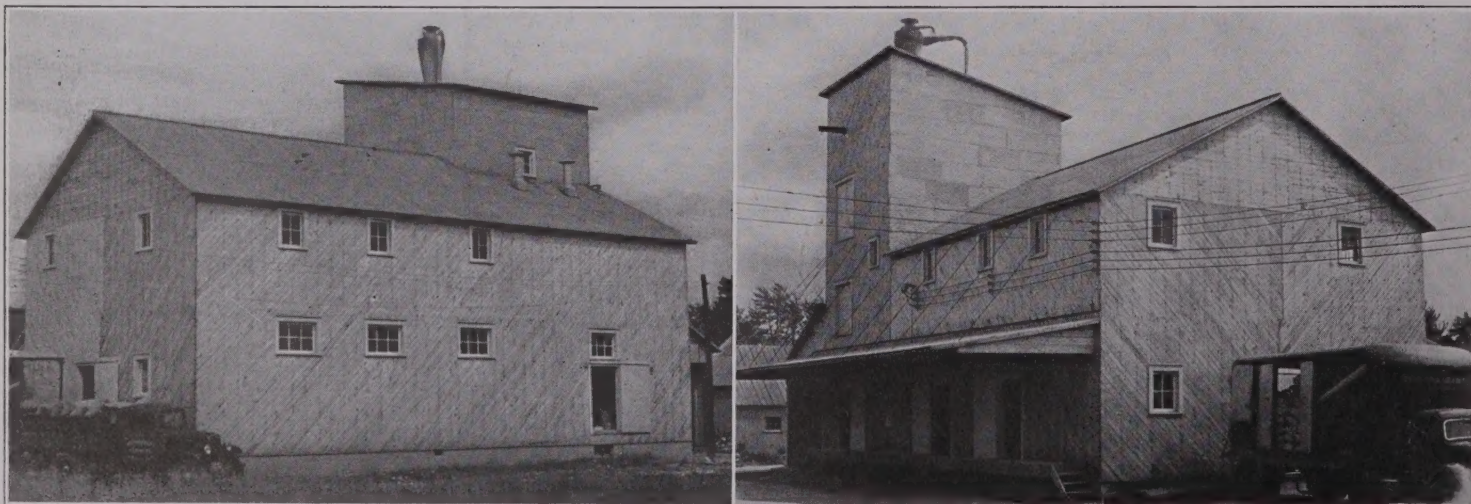
That the type of blindness of nutritional origin, first reported by Moore, Duncan and Huffman of Michigan, is not confined to dairy cattle was shown by McNutt and Wall who reported blindness due to constriction of the optic nerve in feeder steers in Iowa.

A recent report by Halverson and co-workers points out that there is no practical level at which yellow corn may be incorporated in a cottonseed meal-cottonseed hull ration to insure an adequate vitamin A intake, and that hay would need to constitute from 20 to 60 per cent of such a ration, depending upon its quality.

Information regarding other vitamins that may apply to beef cattle nutrition must be assumed by analogy from work on dairy cattle which follows:

BEEF CATTLE. Altho it had previously been demonstrated that cattle require vitamin A, the first indication that lack of this factor might be of importance in practice dates back to 1930 when Halverson and Sherwood of North Carolina showed that so-called cottonseed meal injury to cattle was due primarily to lack of vitamin A in the ration, and to 1933 when Hart, Mead and Guilbert of California briefly reported that vitamin A deficiency had been found in range cattle under natural conditions. The succeeding work of Hart and Guilbert, and vice versa, is too well known to review here other than to recall that they established a minimum daily requirement for the bovine of 26-33 micrograms of carotene per kilogram of body weight, a value which has since been confirmed by others.

Work on the vitamin A requirement of beef cattle, reported at various meetings last year, has been continued by the U. S. Bureau of Animal Industry in co-operation with the Texas station. Whereas depletion occurred in about 137 days in previous years, last year the depletion period was reduced to 107 days, for which drought was thought to be largely responsible. The most severe symptoms of vitamin A deficiency occurred in animals receiving 20 micrograms of carotene per kilogram of liveweight daily.



Back and front views of New Feed Grinding and Mixing Plant and Warehouse of Wapakoneta Farmers Grain Co., Wapakoneta, O.

Recent Developments in Nutritional Research

By PAUL H. PHILLIPS, department of biochemistry, University of Wisconsin, before Western Grain & Feed Ass'n

IODINE NEEDED.—Last winter it became necessary for me to visit quite a number of good dairy herds in our state. Not on several, but many occasions I was surprised to find excellent herds, some of them purebreds, with thick big-necked calves. This condition is caused by the lack of iodine and results in the condition known as goiter. An occasional individual would not have been so bad but on some farms a pen of otherwise nice calves would all be afflicted.

A new development which stabilizes the iodine in iodized salt and prevents its volatilization has been perfected. The process has been patented but I understand that the stabilized iodine can be purchased for mixing directly with common salt. The process requires 2 lbs. of thiosulfate, 2 lbs. of sodium carbonate, 2 lbs. of starch and 0.4 lbs. of potassium iodide per ton of salt. With such a method available, goiter should be entirely eliminated from the farms in the goiter belt.

PHOSPHORUS SUPPLEMENT.—One of the acute mineral problems which has constantly faced the feed dealer and the feeder has been a relatively constant but not too expensive phosphorus supplement. Steamed bone meal fits the requirements admirably but on occasion this product has been often diverted to other channels than livestock feeding. The price which is frequently high fluctuates rather widely. Furthermore, it is limited in quantity. Feeders and feed manufacturers have sought for many years to obtain a cheaper source of phosphorus and calcium. Rock phosphate was tried with very disastrous results.

FLUORINE not only affects teeth and long bones, but in certain endemic areas of India, it has caused "poker backs" and sterility in the human. This results when fluorine, a poisonous element, is ingested for long periods of time. The rock phosphate used as a calcium and phosphorus carrier was badly contaminated with fluorine. These experiments have been duplicated with rats at this station by Dr. Nelson, with swine by Dr. Bethke at Ohio, as well as our own station.

FLUORINE IN ANY FORM IS NOT SAFE. Due to the toxic nature of fluorine, various commercial companies have sought ways and means of removing fluorine from natural occurring rock phosphate.

Rock phosphate free of fluorine is an excellent source of Ca and P. The Ca:P ratio is like that of bone meal which is thought to be optimum. Therefore, if fluorine could be eliminated, a relatively inexpensive source of P as well as Ca would be available.

A practical method has now been perfected for the effective removal of fluorine from crude rock phosphate. The resulting product is sold under the label of defluorinated phosphate. The fluorine content of this product is in the general range of that found in steamed bone meal, or 0.05% fluorine. Biological tests with the rat have shown that it can be fed with relatively little fluorine effect. Rats fed for 12 weeks on this mineral supplement stored less than 300 parts of fluorine per million in their femurs. This performance is equal or slightly superior to what would be expected on the same ration supplemented with bone meal as the Ca, P carrier.

Certain deposits of phosphate low in fluorine have been sought and the claim made that they were low in fluorine and therefore safe to use as mineral supplements. If the claims are true, they would be safe. Recent work in our laboratory has shown that certain colloidal phosphates reported to be low in phosphate actually carried 1.4% fluorine. This is high enough to be in the danger zone and should be avoided.

In these days of sky-rocketing prices and

when bone meals are scarce and expensive, it is a great satisfaction to know that we have defluorinated phosphates which can be called upon to serve as Ca and P supplements. Incidentally one should be able to purchase them for considerably less than the price of steamed bone meal.

(To be continued)

American F.M.A. 1942 Convention at French Lick Springs

The American Feed Manufacturers Ass'n's board of directors has decided that the organization's 1942 convention will be held at the French Lick Springs Hotel, French Lick, Ind., June 4, 5 and 6.

The board felt that the central location of this meeting place would make probable a larger attendance from distant territory. The 1941 convention was the largest in the history of the ass'n, but the 1942 convention is expected to exceed its attendance record.

Firm Fat from Soybean Feed

At the North Carolina Experiment Station an investigation developed a method for the production of firm carcasses from pigs fed considerable amounts of soybeans when followed by a corn-tankage-cottonseed meal ration. Sixty-lb. pigs were fed rations containing 30, 40 or 50% soybeans to weight of 100 lbs., when a corn-tankage-cottonseed meal ration containing 13% cottonseed meal was fed to an average weight of 230 lbs. The carcasses were firm and the fat constituents were those of firm fats.

Grinding Barley Pays

It pays to grind barley for growing and fattening swine, regardless of whether the barley is to be soaked, fed wet, or self fed, according to the Oklahoma Experiment Station.

In a three-month test comparing whole and ground barley fed by each of the three methods, an average of 16 per cent less feed was required per hundredweight of gain when the barley was ground.

Other observations included:

Soaking for 12 hours did not improve ground barley.

Self-feeding ground barley was slightly more economical than hand feeding if one considers the feed cost only.

In every case where whole barley was fed, many kernels passed thru the digestive tract of the pig unbroken.

Neither self-feeding whole barley nor soaking it for 12 hours gave much better results than feeding it wet.

Extreme Fine Grinding of No Value

Belief of some practical feeders that excessively fine grinding of feedstuffs is not worth the extra cost of such grinding appears to be substantiated by early results in an uncompleted project designed to test the value of this practice.

Tests of fine-ground feeds were started by the Oklahoma Experiment Station when poultrymen began to blame such feeds for the otherwise unexplainable deaths of many young chickens. Dairywomen also had reported that such feeds reduced the fat production of their cows.

Sheep, rabbits and rats were found to make better use of coarse-ground than of fine-ground feeds. The sheep and rabbits much preferred coarse-ground to fine-ground feed, indicating that extremely fine grinding tends to destroy palatability. Only point in favor of fine grinding has been a better utilization of the minerals in the feed, and these may be easily supplied in a mineral mixture.

These tests are to be continued with chickens.

Feed Storage in Northeastern States

By CARL C. FARRINGTON, vice pres. Commodity Credit Corp., before Poultry Producers at Harrisburg, Pa.

We have two types of contracts which we have offered to enter into with feed manufacturers and banks or other lending agencies.

The first contract developed provided for farm storage of reserve supplies of mixed feeds. Under this agreement the lending agency makes a loan to the feed manufacturer to enable the manufacturer to purchase the feed ingredients, manufacture the feed, and place the reserve supplies of feed on farms.

The farmer agrees to store the feed, without compensation, for an indefinite period, rotate the stock so as to avoid deterioration, and at the end of the storage period purchase the feed at the prevailing market price or return the feed to the local agent of the feed manufacturer.

The feed manufacturer is responsible for any losses that may occur as the result of deterioration or conversion of the feed stored but the Commodity Credit Corporation assumes the risk of declines in the price of feed ingredients between the time the reserve stocks are placed in storage and the time they are released pursuant to instructions from the Commodity Credit Corporation.

The second type of agreement, which is still in the development stage, involves the storage of reserve stocks of feed and feed ingredients in warehouses owned or leased by feed manufacturers. This agreement also involves financing through a bank or lending agency other than the Commodity Credit Corporation.

The Commodity Credit Corporation, however, agrees to make a payment to the manufacturer to cover a portion of the cost of storing and carrying the reserve supply of feed or feed ingredients and also assumes all losses, as to 80 per cent of the quantity stored, resulting from a decline in the price of feed ingredients between the time the reserve supply is placed in storage and the time this reserve supply is liquidated pursuant to an authorization from Commodity Credit Corporation.

In the event of an increase in the value of feed stored, it is provided that an amount equal to 50 per cent of the increase in value be paid to the Commodity Credit Corporation. It may be noted, therefore, that this agreement provides that the Commodity Credit Corporation and the manufacturer or dealer shall share jointly in the cost of storing the reserve supply of feed, and the losses resulting from price declines, or the gains resulting from price increases.

The above types of agreements have been discussed with both co-operative and proprietary feed manufacturers and distributors, but thus far, the only agreement executed is with Grange League Federation and the Central Bank for Co-operatives. Under the agreement with the G.L.F., I understand that a number of storage agreements have been signed by farmers but very little feed has actually been placed on farms.

Under both of the contracts which we have made available to assist in building up emergency reserve supplies of feed, we have reserved the right to specify the maximum prices at which these reserve supplies may be accumulated and the minimum prices at which these reserve supplies can be released. These provisions give us adequate authority to prevent these contracts being used to force feed prices to an unwarranted level through the accumulation of unnecessarily large reserve supplies or to depress feed prices unduly through liquidation of these stocks.

The Commodity Credit Corporation is going to continue its policy of storing grain in the northeastern states and in other points where feeding demands exceed supply. That is our basic and our biggest contribution to your effort.

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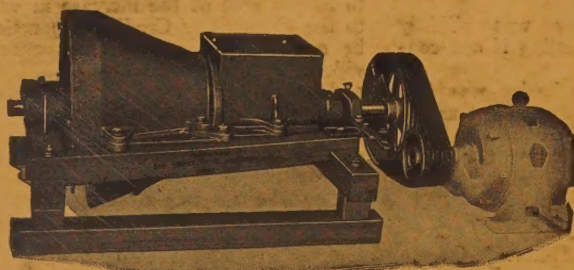
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